

Arlington High School Building Committee

Meeting Date: **Tuesday, March 2, 2021 - 6:00 pm**
Location: **Conducted via Remote Participation**

Agenda

1. Skanska
 - ◆ MSBA PFA Bid Amendment and Kick-off Update
 - ◆ Owner Award Letters (OALs):
 - ◆ OAL #29 Theater Equipment
 - ◆ OAL #30 Finish Carpentry & Salvaging
 - ◆ OAL #31 Spray Acoustic Insulation
 - ◆ OAL #32 Acoustic Room Components
 - ◆ OAL #33 Metal Panel and Sintered Stone
 - ◆ OAL #34 Wood flooring
 - ◆ OAL #35 Carpet & Entrance Mats
 - ◆ OAL #36 Resilient Athletic Flooring
 - ◆ OAL #37 Resilient Athletic Flooring
2. HMFH Update
3. Consigli Update
4. Subcommittee Reports
 - ◆ Communications
 - ◆ Finance
 - ◆ Interiors
 - ◆ Landscape & Exteriors
 - ◆ Memorials
 - ◆ SMEPFP
 - ◆ Security
 - ◆ Temp Use-Phasing
5. Approval of Minutes
 - ◆ February 2, 2021
6. New Business

The listings of matters are those reasonably anticipated by the Chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law.

Members of the public are asked to send written comment to ktassone@arlington.k12.ma.us. Documents regarding agenda items will be made available via the Town's website.

<https://www.mass.gov/doc/open-meeting-law-order-march-12-2020/download>

Topic: AHS Building Committee

Time: Mar 2, 2021 06:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://town-arlington-ma-us.zoom.us/j/92796889241>

Meeting ID: 927 9688 9241

One tap mobile

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Dial by your location

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+1 301 715 8592 US (Washington DC)
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 408 638 0968 US (San Jose)

Meeting ID: 927 9688 9241

Find your local number: <https://town-arlington-ma-us.zoom.us/u/acv524Of74>

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AHSBC 3/2/21 DRAFT VOTE LANGUAGE**1. Motion to award the following subcontracts per OAL #29 thru #37:**

OAL #	Division	Subcontractor	OAL Amount
OAL #29	Theatre and Stage Equipment	Walker Specialties, Inc.	\$ 560,500
OAL #30	Finish Carpentry & Salvaging Work	1). Riggs Contracting 2). Consigli NY mill-shop	\$ 3,765,839
OAL #31	Spayed Acoustic Insulation	Acoustical Thermal Insulators, Inc.	\$ 432,800
OAL #32	Acoustical Room Components	K&K Acoustical Ceilings	\$ 390,800
OAL #33	Metal Panels & Sintered Stone	1). TJ McCartney, Inc. (Metal Panels) 2). Colony Drywall (exterior Column Covers)	\$ 1,601,000
OAL #34	Wood Flooring	Kenvo Floor Co. Inc.	\$ 430,430
OAL #35	Carpet & Entrance Mats	Ayotte & King for Tile, Inc.	\$ 372,100
OAL #36	Resinous Epoxy Flooring	Business Interiors Floor Covering	\$ 219,882
OAL #37	Resilient Athletic Flooring	Kiefer Northeast LLC.	\$ 150,640

2. Motion to approve the meeting minutes of February 2, 2021.



CONSIGLI
Est. 1905

February 19, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 29 – Theatre and Stage Equipment

Dear Jim,

We have completed our review of the proposals for the Theatre and Stage Equipment and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Walker Specialties, Inc.**, for the **Theatre and Stage Equipment work** in the amount of **\$475,500**. Please find a summary of the award below. We request that an additional sum of **\$85,000** be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Theatre and Stage Equipment	
GMP estimate dated 11.24.20	\$782,353
Subcontract award value	\$475,500
Holds included outside the Subcontractor's award value	
Labor support	\$50,000
Smoke hatch closure rigging	\$15,000
Stage floor protection	\$20,000
Total award value for Theatre & Stage equipment	\$560,500
Savings against the GMP budget	\$221,853

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Theater & Stage Equipment	Total:	\$ 560,500	\$ 646,746	\$ 667,353	\$ 678,403	\$ 700,430	\$ 702,098	\$ 773,024
Arlington High School								
Amount in Estimate: \$ 782,353								
CONTRACT DOCUMENTS								
Drawings prepared by: HMFH Architects dated 10/07/20		Y	Y	Y	Y	Y	Y	Y
Specifications prepared by: HMFH Architects dated 10/07/20 including:		Y	Y	Y	Y	Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.		Y	Y	Y	Y	Y	Y	Y
Section 007225 - CM's supplemental instructions dated 10/07/20, including section O (Covid-19 site specific safety requirements)		Y	Y	Y	Y	Y	Y	Y
Section 110610 - Stage Rigging and Curtains		Y	Y	Y	Y	Y	Y	Y
Section 110680 - Portable Platform		Y	Y	Y	Y	Y	Y	Y
Addenda prepared by: HMFH Architects		Y		Y	Y	Y		
Addendum 01 , dated 10/16/20		Y	Y	Y	Y	Y	Y	Y
Addendum 02 , dated 10/23/20		Y	Y	Y	Y	Y	Y	Y
Addendum 03 , dated 10/28/20		Y	Y	Y	Y	Y	Y	Y
Addendum 04 , dated 11/2/20		Y	Y	Y	Y	Y	Y	Y
Addendum 05 , dated 11/5/20		Y	Y	Y	Y	Y	Y	Y
Addendum 06 , dated 11/6/20		Y	Y	Y	Y	Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.		Y	Y	Y	Y	Y	Y	Y
Compliance with Owner's contract (spec 005223)		Y	Y	Y	Y	Y	Y	Y
Compliance with Consigli contract		Y	Y	Y	Y	Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:		Y	Y	Y	Y	Y	Y	Y
Section B - Quality Plan		Y	Y	Y	Y	Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)		N	Y	Y	Y	Y	Y	Y
Section E - Project Safety Requirements		Y	Y	Y	Y	Y	Y	Y
Section F - Lean Requirements		Y	Y	Y	Y	Y	Y	Y
Section G - Logistics/CMP Plan		Y	Y	Y	Y	Y	Y	Y
Section H - Schedule		Y	Y	Y	Y	Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan		Y	Y	Y	Y	Y	Y	Y
RFI Log dated 11/02/2020		Y	Y	Y	Y	Y	Y	Y
SCOPE OF WORK		\$ 475,500	\$ 561,743	\$ 582,353	\$ 592,200	\$ 647,230	\$ 615,898	\$ 719,656
General								
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.		Y	Y	Y	Y	Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.		Y	Y	Y	Y	Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.		Y	Y	Y	Y	Y	Y	Y
Remove fall arrest from base bid		N/A	n/a	n/a	n/a	Y \$ (33,000)	n/a	Y \$ (31,632)
110610 Stage Rigging and Curtains								
Furnish & install, with union carpenters, the single-purchase counterweight rigging system, stage traveler track assemblies, pipe battens, pipe grids, curtain tracks and accessories required for a complete and functional stage rigging and curtain system as indicated on the TR series drawings and as specified.		Y v= \$386,000	Y v= \$452,730.51		Y v= \$464,400		Y v= \$501,786.89	
Product installed but not supplied under this section:		Y	Y	Y	Y	Y	Y	Y
Electric batten connector strips -3/TR 3.1.1.		Y	Y	Y	Y	Y	Y	Y
The following equipment shall be supplied and put in place under this section, but terminated under Division 26		Y		Y	Y	Y	Y	Y
Locking rail strip light and dimmers - TR 3.1.1		Y	Y	Y	Y	Y	Y	Y
Submittals/shop drawings (paragraph 1.7)		Y	Y longer lead time t	Y	Y	Y	Y	Y
Quality assurance (paragraph 1.8)		Y	Y	Y	Y	Y	Y	Y
Warranty - two year written guarantee against defects in materials or workmanship. The warranty period shall start from the date of acceptance of the work by the Owner's Designated Representative. (paragraph 1.11)		Y	Y	Y	Y	Y	Y	Y
Maintenance service - One year after acceptance testing a technician shall return to the project site to inspect, adjust and repair the system. (paragraphs 1.14 and 3.8)		Y	Y	Y	Y	Y	Y	Y
<u>Equipment Manufacture: Wenger/J.R. Clancy, H&H Specialty, Texas Scenic, H&H Specialties, Thern.</u>	<u>State the MFR included</u>	Y WENGER	N i-Weiss	Y Thern	N i-Weiss	Y WENGER	Y Thern	Y Thern
<u>Drapery Manufacturers: Stage Decoration and Supply, Rosebrand, Major Theatre Equipment</u>	<u>State the MFR included</u>	N Walker Specialties	N i-Weiss	Y KM Fabrics & Rose	N Syracuse	Y	Y Rosebrand	Y
All materials as specified		Y	Y	Y	Y	Y	Y	Y
Fabricate to tolerances specified		Y	Y	Y	Y	Y	Y	Y
Fabricate all components of the counterweight rigging system in accordance with paragraph 2.5		Y	Y	Y	Y	Y	Y	Y
Fabricate the stage traveler track assembly in accordance with paragraph 2.6		Y	Y	Y	Y	Y	Y	Y
Provide bi-parting line-operated curtain track per the Drawings for stage travelers in Auditorium. (reference al TR series drawings)		Y	Y	Y	Y	Y	Y	Y
<u>Product : Automatic Devices Company Series 380 cord-operated bi-part curtain track, H&H Specialties equal</u>	<u>State the MFR included</u>	Y H&H Specialties	N i-Weiss	Y H&H Specialties	N i-Weiss	Y	Y Rosebrand	Y
Fabricate the Auditorium walk-draw traveler track assembly in accordance with paragraph 2.7		Y H&H Specialties	Y i-Weiss	Y	Y	Y	Y	Y

Theater & Stage Equipment		Total:	\$ 560,500	\$ 646,746	\$ 667,353	\$ 678,403	\$ 700,430	\$ 702,098	\$ 773,024
Arlington High School									
Amount in Estimate: \$ 782,353			Walker Specialties, Inc. (617) 333-3220 mvincent@walkerspecialties.com	Lighthouse Productions Inc dba Port Lighting (603) 474-2110 quentin@portlighting.com	Janson Industries (330) 455-7029 jansonindustries.com	Syracuse Scenery & Stage Lighting Co., Inc. (315) 453-8096 kaiser@syracuse scenery.com	Wenger Corporation (800) 493-6437 cal.marzella@wengercorp.com	High Output, Inc. (781) 364-1858 mshore@highoutput.com	Barbizon Light of New England, Inc. (781) 935-3920 mmoore@barbizon.com
Fabricate the performing arts walk-draw curtain track in accordance with paragraph 2.7 and as indicated on the drawings.			Mark Vincent	Quentin Stockwell	Eric Janson	Christine Kaiser	Dan Cormier, Mobile: (508) 320-3888 Regional Sales Manager	Mark Shore	Scott Stipetic
Fabricate the pipe battens in accordance with paragraph 2.9			Y H&H Specialties	Y i-Weiss	Y	Y	Y	Y	Y
Provide ACOUSTIC CEILING PANEL (Paragraph 2.10, Drawing TR 3.1.1)			Y	Y	Y	Y	Y	Y	Y
Acoustical shell ceiling consisting of adjustable-angle acoustical shell ceiling panels with integrated lighting fixtures, suspended from stage rigging pipe batten, and stored in fly-loft in vertical position.			Y	Y	Y	Y	Y	Y	Y
<u>Basis of Design : Wenger Maestro Acoustical Shell or Equal</u>			Y WENGER	Y Stage Right	Y Stage Right	Y Stage Right	Y WENGER	Y Stage Right	Y Stage Right
Quantity as indicated on the drawing TR 3.1.1	ea	3	3	3	3	3	3	3	3
Provide pipe grid in layout per the TR series drawings, with threaded-rod supports to overhead structure per loading criteria (Paragraph 2.11, reference Theatrical rigging details on TR 4.1.1)			Y	Y	Y	Y	Y	Y	Y
Meet the Performing Arts Classroom Theater Loading Criteria as specified.			Y	Y	Y	Y	Y	Y	Y
Provide draperies for the Auditorium and the Performing arts center in accordance with paragraph 2.12 , the Drapery Schedule in paragraph 2.13 and as indicated on the TR series drawings			Y	Y	Y	Y	Y	Y	Y
Product: K-M Fabrics "Prestige" . Equals by JB Martin, Gerriets or DeBall			Y K-M Fabrics "Prestige"	Y	Y	Y	Y	Y	Y
3.3H All materials to be flame-proofed to conform to local code.			Y	Y	Y	Y	Y	Y	Y
Provide pipe weight (Paragraph 2.14)			Y	Y	Y	Y	Y	Y	Y
Provide (6) storage hampers as specified (Paragraph 2.15)			Y	Y	Y	Y	Y	Y	Y
Examine and verify site and conditions under which the equipment is to be installed.			Y	Y	Y	Y	Y	Y	Y
Install in accordance with Part-3 Execution of the specifications.			Y	Y	Y	Y	Y	Y	Y
Include provisions for field quality control, inspection and testing as specified			Y	Y	Y	Y	Y	Y	Y
Include provisions for Owner demonstration and cleaning as specified			Y	Y	Y	Y	Y	Y	Y
110680 Portable Platform			Y v = \$89,500	Y v = \$109,011.98		Y v = \$127,800	w/above	Y v = \$114,110.55	
RFI A3 Furnish & install a complete portable platform system with seating and all required accessories to create seating and platform layouts as shown on the Drawings.			Y		Y	Y	Y	Y	Y
Work includes Stage extension platform and Closure panels. Reference the Architectural Drawings.			Y	Y	Y	Y	Y	Y	Y
Provide custom portable platforms with detachable legs to create stage extension (Paragraph 1.6, 2/A8.7.6)			Y	Y	Y	Y	Y	Y	Y
LEED submittals, shop drawings			Y	Y	Y	Y	Y	Y	Y
1.11 Warranty - (1) year from the date of Commissioning on all equipment provided under this section			Y	Y	Y	Y	Y	Y	Y
1.14 Maintenance materials - additional materials to the Owner as specified			Y	Y	Y	Y	Y	Y	Y
Manufacturers: Staging Concepts, StageRight, Corp, Wenger, Corp.		State the MFR included	Y WENGER	Y Stage Right	Y Stage Right	Y Stage Right	Y WENGER	Y Stage Right	Y
Fabricate stage extension platform system in accordance with paragraph 2.4			Y	Y	Y	Y	Y	Y	Y
Frame : 4-inch extruded aluminum designed with grooves to accept attachments to guardrails, chair stops, closure panels, step units, closure panel and skirting clips.			Y	Y	Y	Y	Y	Y	Y
Frame finish: Anodized black			Y	Y	Y	Y	Y	Y	Y
Subfloor: 1-inch thick, exterior rated marine-grade plywood			Y	Y	Y	Y	Y	Y	Y
Finish surface: Plyron (paintable tempered hard board)			Y	Y	Y	Y	Y	Y	Y
Deck finish color: Black			Y	Y	Y	Y	Y	Y	Y
Sound dampening: Provide single-sided decks with acoustic insulation backing			Y	Y	Y	Y	Y	Y	Y
Maximum weight: 85 pounds			Y	Y	Y	max weight 95 lbs	Y	Y	Y see note on stage
Closure Panel: Provide hard closure panel designed to seal access from audience seating into orchestra pit			Y	Y	Y	Y	Y	Y	Y see note on stage
Support			Y	Y	Y	Y	Y	Y	Y
Material: Aluminum			Y	Y	Y	Y	Y	Y	Y
Provide legs and understructure as required to achieve all configuration shown on Drawings.			Y	Y	Y	Y	Y	Y	Y
Provide each leg with adjustable threaded foot			Y	Y	Y	Y	Y	Y	Y
All legs and understructure shall be installable without the use of specialized tools.			Y	Y	Y	Y	Y	Y	Y
Provide all hardware in anodized black finish			Y	Y	Y	Y	Y	Y	Y
Install platforms and accessories in all configuration shown on Drawings.			Y	Y	Y	Y	Y	Y	Y
After successful installations, install platforms at seating level.			Y	Y	Y	Y	Y	Y	Y
QUANTITIES									
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS									
Includes all submittals, shop drawings, warranties, etc. as specified and required.			Y	Y longer lead time	Y	Y	Y	Y	Y
Prevailing Wage per specifications			Y	Y	Y	Y	Y	Y	Y
Labor Affiliations - indicate your affiliations.			Union	open	Y	open	union	open	open
Union Carpenters and Laborers as applicable.			Carpenters	willing to work w	Y	Y	local ironworkers	Y	
Layout from control provided by GC.			Y	Y	Y	Y	Y	Y	Y
Includes all field measurements as required.			Y	Y	Y	Y	Y	Y	Y
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.			Y	Y	Y	Y	Y	Y	Y
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.			Y	Y	Y	Y	Y	Y	Y
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.			Y	Y	Y	Y	Y	Y	Y

Theater & Stage Equipment		Total:	\$ 560,500	\$ 646,746	\$ 667,353	\$ 678,403	\$ 700,430	\$ 702,098	\$ 773,024
Arlington High School			Walker Specialties, Inc. (617) 333-3220 mvincent@walkerspecialties.com	Lighthouse Productions Inc dba Port Lighting (603) 474-2110 quentin@portlighting.com	Janson Industries (330) 455-7029 stage@jansonindustries.com	Syracuse Scenery & Stage Lighting Co., Inc. (315) 453-8096 kaiser@syracuse scenery.com	Wenger Corporation (800) 493-6437 cal.marzella@wengercorp.com	High Output, Inc. (781) 364-1858 mshore@highoutput.com	Barbizon Light of New England, Inc. (781) 935-3920 mmoore@barbizon.com
Amount in Estimate: \$ 782,353			Mark Vincent	Quentin Stockwell	Eric Janson	Christine Kaiser	Dan Cormier, Mobile: (508) 320-3888 Regional Sales Manager	Mark Shore	Scott Stipetic
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.			Y	Y	Y	Y	Y	Y	Y
All requisitions are to be done on Textura software.			Y	Y	Y	C \$ 1,200	C \$ 1,200	C \$ 1,200	Y
EXCLUSIONS			Y	Y	Y	Y	Y	Y	Y
Sales tax			Y	Y	Y	Y	Y	Y	Y
Section 265000 – Theatrical Lighting Control and Fixtures			Y	Y	Y	Y	Y	Y	Y
Division 26 work			Y	Y	Y	Y	Y	Y	Y
RFI A29 Adjustable catwalk rails - w misc metals subcontractor			Y	Y	Y	Y	Y	Y	Y
RFI A30 Balcony light brackets - w misc metals subcontractor			Y	Y	Y	Y	Y	Y	Y
SCHEDULE REQUIREMENTS									
Provide lead times in weeks									
Samples		WKS	4 wks	2 wks	8 wks	8 wks	8 wks	4 wks	n/a
Submittals		WKS	8 wks	6 wks	10 wks	10 wks	10 wks	8 wks	8 wks
Materials (from approval)		WKS	8 wks	6 wks	12 wks	12 wks	12 wks	8 wks	8 wks
Schedule of Work as posted with teh C.M's Supplemental Instructions - run date 10/02/20									
Provisions for phasing									
Phase 1 Building Construction -Start: November 24, 2020 -Completion: February 14, 2022			Y	Y	Y	Y	Y	Y	Y
Phase 3: Complete Construction duration PERFORMING ARTS RM 244 Bldg. E - constructed , not in Phase 1. -Start: July 13, 2023 -Completion: September 27, 2024			Y	Y	Y	Y	Y	Y	Y
Provisions for phasing			Y	Y	Y	Y	Y	Y	Y
Includes all mobilizations as required			Y	Y	Y	Y	Y	Y	Y
Prequalification									
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS		Total:	\$ 475,500	\$ 561,746	\$ 582,353	\$ 593,403	\$ 615,430	\$ 617,098	\$ 688,024
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE									
Labor support	1 ls	\$ 50,000	C \$ 50,000	C \$ 50,000	C \$ 50,000	C \$ 50,000	C \$ 50,000	C \$ 50,000	C \$ 50,000
Smoke hatch closure rigging (not specified or designed. This sub typically can perform)	1 ls	\$ 15,000	C \$ 15,000	C \$ 15,000	C \$ 15,000	C \$ 15,000	C \$ 15,000	C \$ 15,000	C \$ 15,000
Stage floor protection	1 ls	\$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000
Holds/Allowances Total:		85,000	560,500	646,746	667,353	678,403	700,430	702,098	773,024
ALTERNATES									
Consigli Alt Storage carts for portable stage (used to transport the stage pieces when you take it down or put up,, 1 recommended by manufacturer but is not in the specifications)	1 ls	ls \$ 10,000	S \$ 7,500	Y \$ 9,775	Y \$ 9,200	Y \$ 10,965	Y \$ 5,710	C \$ 10,000	C \$ 10,000



CONSIGLI
Est. 1905

February 19, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 30 – Finish carpentry & Salvaging work

Dear Jim,

We have completed our review of the proposals for the Finish carpentry work and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Riggs Contracting and Consigli NY mill-shop.**, for the **Finish carpentry & Salvaging work** in the amount of **\$3,720,839**. Please find a summary of the award below. We request that an additional sum of **\$45,000** be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Finish Carpentry work	
GMP estimate dated 11.24.20	\$3,553,853
Subcontract award value	\$3,720,839
Holds included outside the Subcontractor's award value	
Additional framing, plywood back up for Finish Carpentry panels auditorium	\$45,000
Total award value for Finish carpentry work	\$3,765,839
Overage against the GMP budget	(\$211,986)

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____

James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Finish Carpentry		Total:	\$ 3,765,839	\$ 3,777,646	\$ 3,978,510	\$ 4,381,068	\$ 4,494,942	\$ 4,173,168
Arlington High School			Riggs Contracting, Inc. (w/Conigli NY Millshop)	New England Finish Systems, LLC (Millwork)	Polybois Inc.	Allegheny Millwork Incorporated	Millwork One	Mark Richey Woodworking and Design, Inc.
Amount in Estimate: \$ 3,553,853			(508) 473-2580 Steve.Gentilucci@riggs-co.com	(603) 893-0833/603-212-6784 gmerksamer@nefinish.com	(418) 338-4638 estimation@polybois.ca	(724) 873-8700 ebanachoski@alleghenymillwork.com	(508) 273-0500 <a href="mailto:ff Walkow <ff Walkow@millworkone.com">ff Walkow <ff Walkow@millworkone.com	(978) 499-3800 mrw@markrichey.com
			Steve Gentilucci	Gary Merksamer x1118	Alain Vachon	Josh Browning	Jeff Walkow/Grant Caldwell (VP)	Pam Fullerton Retracted pricing
CONTRACT DOCUMENTS								
Drawings prepared by: HMFH Architects dated October 7, 2020								
Specifications prepared by: HMFH Architects dated 10/7/20 including:								
Section 007225 - CM's Supplemental Instructions dated 10/07/20								
Section 018110 - Sustainable Design requirements								
Section 024120 - Salvaging								
Section 064020 - Interior Architectural Woodwork								
Section 098400 - Acoustic Room Components (partial)								
Section 323300 - Site Furnishings (STEPPED WOOD SEATING)								
Addenda prepared by: HMFH Architects								
Addendum 01, dated 10/16/20								
Addendum 02, dated 10/23/20								
Addendum 03, dated 10/28/20								
Addendum 04, dated 11/2/20								
Addendum 05, dated 11/5/20								
Addendum 06, dated 11/6/20								
Compliance with all Division 0 and 1 specifications as applicable.								
Compliance with Owner's contract (spec 005223)								
Compliance with Conigli contract								
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:								
Section B - Quality Plan								
Section C - 3D Coordination Specification (as applicable to this trade)								
Section E - Project Safety Requirements								
Section F - Lean Requirements								
Section G - Logistics/CMP Plan								
Section H - Schedule								
Section O - COVID-19 Site Specific Safety Plan								
RFI Log dated 11/2/2020								
SCOPE OF WORK								
General								
Work of this trade applies to phases 1-3								
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.								
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.								
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.								
Refer to A1.2.1 thru A1.5 for phasing of this project								
This subcontractor understands that this project is phased, and areas where this scope is scheduled to be placed may not be installed at that location until neighboring phase(s) are complete. For example, this trade cannot put the Performing Arts/ Spine Bench (5/A8.6.1 & 4/A1.5) in place until Buildings E, B, and A are completed.								
A2.2E								
024120	Salvaging		Riggs	\$ 43,937	Riggs	\$ 43,937	O	\$ 43,937
par 1.2	See spec for items of salvaged materials		Y	Y			No Bid, w/above	Y
	<u>Items that needs to be Removed, stored at designated area onsite and reinstalled</u>		Y	Y			No Bid, w/above	Y
1/A12.8.0c	"River of Hands" mural		Y	Y			No Bid, w/above	Y
1/12.8.9	Fusco cared wood paneling		Y	Y			No Bid, w/above	Y
2/A1.2.9;	Old hall cared wood proscenium (medallion only)		Y	Y			No Bid, w/above	Y
6/A8.6.5			Y	Y			No Bid, w/above	Y
2/A1.2.9;	Old hall wood proscenium (medallion to be reinstalled, the remainder to be removed only)		Y	Y			No Bid, w/above	Y
3/A2.3a;	Ceramic memorial and associated plaque		Y	Y			No Bid, w/above	Y
3/A12.8.0b	track and field record signage at gym exterior		Y	Y			No Bid, w/above	Y
	Includes mural and plaque		Y	Y			No Bid, w/above	Y
	Existing Makerspace esp: table saw, chop saw, and 2 lath		Y	Y			No Bid, w/above	Y
	RE-INSTALLATION in New building Makers space in PHASE 1		Y	Y			No Bid, w/above	Y
	STORAGE FOR SALVAGED ITEMS		Y	Y			No Bid, w/above	Y
	<u>Items that include Removal and stored at designated location on-site</u>		Y	Y			No Bid, w/above	Y
par 1.2.A. #13	Plaques to be salvaged and turned over to the Owner (Phase 2 removal prior to Phase 2 demolition)		Y	Y			No Bid, w/above	Y
par 1.2.A.#14	Plaques to be salvaged and turned over to the Owner (Phase 3 removal prior to Phase 3 demolition)		Y	Y			No Bid, w/above	Y

Finish Carpentry		Total:	\$ 3,765,839	\$ 3,777,646	\$ 3,978,510	\$ 4,381,068	\$ 4,494,942	\$ 4,173,168
Arlington High School			Riggs Contracting, Inc. (w/Conigli NY Millshop)	New England Finish Systems, LLC (Millwork)	Polybois Inc.	Allegheny Millwork Incorporated	Millwork One	Mark Richey Woodworking and Design, Inc.
Amount in Estimate: \$ 3,553,853			(508) 473-2580	(603) 893-5083/603-212-6784	(418) 338-4638	(724) 873-8700	(508) 273-0500	(978) 499-3800
par 1.2.A.#15	Plaques to be salvaged and turned over to the Owner (Phase 4 removal prior to Phase 4 demolition		Steve.Gentilucci@riggs-co.com	gmerksamer@nefinish.com	estimation@polybois.ca	ebanachoski@alleghenymillwork.com	Jeff Walkow <jwalkow@millworkone.com>	mrw@markrichey.com
	<u>Collomb clockworks turned over to the Owner</u>		Steve Gentilucci	Gary Merksamer x1118	Alain Vachon	Josh Browning	Jeff Walkow/Grant Caldwell (VP)	Pam Fullerton
061000	Rough Carpentry							Retracted pricing
	All surface blocking, shims, etc. required for installation		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
	TAGS including but not limited to the following:		Y	Y	Y	Y	Y	Y
	064020.10 - CONTINUOUS WOOD BLOCKING, SIZE AS REQUIRED		Y	Y	Y	Y	Y	Y
	064020.12 - 1/2" PLYWOOD							
	064020.13 - 3/4" PLYWOOD							
323300	Site Furnishings (STEPPED WOOD SEATING) Furnish & install		Y included w/ base bid	S \$ 79,763	O \$ 79,763	O \$ 79,763	O \$ 79,763	O \$ 79,763
	Reference paragraph 2.2, page 4 of section 323300		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
L6.1	Stepped wood seating at East Courtyard		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
1/L7.08	Cumaru (or equal) hardwood decking and fascia board		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
	Wood Members including Fascia and any exposed wood shall be 100% FSC Certified Cumaru Lumber or approved equal from a single source		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
	If Cumaru, lumber shall match wood specified for Freestanding Bench in 2.1. Ipe wood will also be acceptable.		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
	Steel frame on adjustable brackets as indicated in the detail		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
2.2 D	Steel Frame shall be hot dip galvanized		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
2.2 E	Joints shall be Type 316 Stainless Steel		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
2.2 B.1.a	Stainless-steel fasteners, bolts and nuts unless otherwise indicated (paragraph 2.2B)		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
	Engineering for steel frame		Y	Y	No Bid, w/above	Y	No Bid, w/above	Y
064020	Interior Architectural Woodwork							
	Furnish all finish carpentry items as shown (the following is provide to assist in scope review but may not be all inclusive):		S \$ 1,918,000	S \$ 1,852,880	S \$ 2,200,000	S \$ 2,355,260	S \$ 2,428,580	S \$ 2,248,402
	Installation for all Finish Carpentry		Y \$ 1,751,598	Riggs \$ 1,751,598	Polybois \$ 1,600,000	Riggs \$ 1,751,598	Millwork One \$ 1,868,194	Riggs \$ 1,751,598
	Scope shall include all item labeled 064020.xx		Y	Y	Y	Y	Y	Y
	Include Section 018110, SUSTAINABLE DESIGN REQUIREMENTS		Y	Y	Y	Y	Y	Y
	FSC certified lumber, wood	Y	Y	Y	Y	Y	Y	Y
	AWI Quality Certification Program certificates for both the fabricator and installer.	Y	Y	in process. Per email dated 02.02.21 expects to complete by End of March 2021	Y	Y	Y	Y
1.4	Quality assurance: Project Reference at least 3 similar projects		Y	Y	Y	Y	Y	Y
	All materials in accordance with Part 2 - Products of the specifications							
2.1, page 5	Wood Species and Cut for Transparent Finish: Select White Maple, Rotary Cut		Y Confirmed Rotary cut included but limits the panel veneer size to 4' x 8' only .	Y Confirmed Rotary cut included but limits the panel veneer size to 4' x 8' only .	Y	Y	Y	Y
	Stain Color: As selected by Architect. Provide up to 2 colors for each area.		Y	Y	Y	Y	Y	Y
	Solid surface materials from one of the specified MFR.		Y	Y	Y	Y	Y	Y
	Provide up to 4 different colors as selected by Architect		Y	Y	Y	Y	Y	Y
2.1, 2.12	Resin Panel Material with custom water jet graphics		Y	Y	Y	Y	Y	Y
	MFRS include a. 3FORM; Varia, b. Lumicor - Interior Resin - Lumiform, c. Chrysalis, by Duraglas, Inc. d. M.B. Wellington Studio; LightBlocks		Y	Y	Y	Y	Y	Y
	Fire-Resistance ratings specified		Y	Y	Y	Y	Y	Y
	Thickness: not less than 1/8-inch for wall panels		Y	Y	Y	Y	Y	Y
	Water-jetting: Provide water-jet cut graphics on panels matching digital artwork from Architect		Y	Y	Y	Y	Y	Y
2.1 G, page 6	Colors: The colors/ texture/ pattern/ or metallic for both layers will be as selected by Architect from full range of Price Group B, up to (10) custom colors		Y	Y	Y	Y	Y	Y
	Phenolic Material		Y	Y	Y	Y	Y	Y
	Tackable Fiber Panels, Class A fire rated, 1/2" thick		Y	Y	Y	Y	Y	Y
7,9,10/A8.6.6	Custom Magnetic Markerboard Laminate: Provide Magnetic Dry Erase Laminate on 1/2"		Y	Y	Y	Y	Y	Y
	Plywood, color: white, Aluminum trim edges		Y	Y	Y	Y	Y	Y
	Stainless Steel Wall Panels, Type: 304, 18 gauge, No. 4 Satin finish		Y	Y	Y	Y	Y	Y
	Include stainless steel backsplashes at all sinks. Check interior elevations. Include at art room sinks,		Y	Y	Y	Y	Y	Y
	Through-wall Book Drops:		Y	Y	Y	Y	Y	Y
	Provide heavy-duty stainless steel through-wall type book drops, Ease Single ThruWall #10-8100 as manufactured by Kingsley; or approved equal		Y	Y	Y	Y	Y	Y
	Fiberglass Grating:		Y	Y	Y	Y	Y	Y
	In configurations as shown on drawings. Provide Dark Grey McNichols, Bedford Grating		Y	Y	Y	Y	Y	Y
	Slatwall Display Panels:		Y	Y	Y	Y	Y	Y
	Tagged 064020.75 (17/A8.6.4 : café display)		Y	Y	Y	Y	Y	Y
	Provide Model #H-4776, Paint-Ready Merchandise Display		Y	Y	Y	Y	Y	Y
	Slatwall Panels by ULINE; or approved equal.		Y	Y	Y	Y	Y	Y

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Amount in Estimate: \$ 3,553,853		(508) 473-2580	(603) 893-5083/603-212-6784	(418) 338-4638	(724) 873-8700	(508) 273-0500	(978) 499-3800
2.2, Page 7 FIRE-RETARDANT-TREATED MATERIALS	Steve Gentilucci	gmerksamer@nefinish.com	estimation@polybois.ca	eabanachoski@alleghenymillwork.com	Jeff Walkow <jwalkow@millworkone.com>	Jeff Walkow/Grant Caldwell (VP)	mrw@markrichey.com
2.7 G, page 12 Flush wood paneling, fire retardant treated	Gary Merksamer x1118						
All cabinet HW and accessories as specified in paragraph 2.3	Alain Vachon						
page 9 Aluminum Slides for Sliding Glass Doors: Track Assembly: CR Laurence Co Inc CRL EZ-Slide 80	Josh Browning						
Provide all components required for complete installation of sliding 1/4" glass doors; assembly shall be rated to support 30 pounds per door; Knappe & Vogt, P1092 ANOD Ezy-Roll Aluminum Track Assembly, or equal							
2.3 H, page 9 Provide a lock for each door and drawer in custom casework. All keys in a given room shall be keyed alike							
2.9 <u>Decorative wood grille</u>							
Basis of Design: Armstrong ACGI Woodworks Grille Backer Series.	Y	Y	Y	Y	Y	Y	Y
MFRS: Armstrong, Rulon, Geometrik Geopanel Grille, 9Wood 1100 Cross Piece Grille <u>at walls</u> and 1300 Lay-In Grille <u>at ceilings</u> .	Y	Y	Y	Y	Y	Y	Y
Configuration As indicated on Drawings.	Y	Y	Y	Y	Y	Y	Y
Color and Finish: <u>To be selected by Architect from manufacturer's full range</u>	Y	Y	Y	Y	Y	Y	Y
Suspension Grid and Supports: Provide steel channel type supports and suspension grid system with anchors and accessories as required for a complete system. Refer to Drawings for configurations and details.	Y	Y	Y	Y	Y	Y	Y
Fabric: Provide black fabric wrapped panels at indicated locations. <u>Fabric shall be as acceptable to Architect</u> .	Y	Y	Y	Y	Y	Y	Y
2.10 <u>Solid surface countertops, surrounds and window stools</u>	Y	Y	Y	Y	Y	Y	Y
As selected by Architect from manufacturer's full range; <u>Allow for four (4) color selection</u>	Y	Y	Y	Y	Y	Y	Y
Provide curved profiles as indicated on drawings.	Y	Y	Y	Y	Y	Y	Y
2.11, page 13 <u>Phenolic panel system</u>	Y	Y	Y	Y	Y	Y	Y
Basis of Design Walls: Parklex "P500"; Prodema "Proligna"; or approved equal.	Y	Y	Y	Y	Y	Y	Y
Basis of Design Floors: Hy Tek by Parklex; "Supra" by Prodema; or approved equal. <u>Tongue and groove, 7 1/4" wide x 96" long</u>	Y	Y	Y	Y	Y	Y	Y
Underlayment: Provide resilient sponge rubber underlayment as recommended by panel manufacturer for flooring applications.	Y	Y	Y	Y	Y	Y	Y
Provide leveling compound at <u>Forum steps</u>		leveling compound w/installer	leveling compound w/installer	leveling compound w/installer	leveling compound w/installer	leveling compound w/installer	leveling compound w/installer
Reference 1.A/9.7.3: Include Pocket door. Provide a 2' x 12' high door, 1 1/2" thick door with piano hinges. Carry as Plain sliced MAPLE door. (Additional details coming, RFI email pending)	Y	Y	Y	Y	Y	Y	Y
Scope shall include but not be limited to the following:	Y	Y	Y	Y	Y	Y	Y
Interior wood base.	Y	Y	Y	Y	Y	Y	Y
Flush wood paneling.	Y	Y	Y	Y	Y	Y	Y
wood paneling tagged 064020.44 (for e.g on Drawing A 8.6.9) and 064020.15 - 3/4" WOOD VENEER PLYWOOD WITH 3/8" SOLID WOOD EDGE BANDING	Y	Y	Y	Y	Y	Y	Y
Custom millwork and casework.	Y	Y	Y	Y	Y	Y	Y
Countertops.	Y	Y	Y	Y	Y	Y	Y
Window stools.	Y	Y	Y	Y	Y	Y	Y
Wall caps and edge trims.	Y	Y	Y	Y	Y	Y	Y
Custom wood benches.	Y	Y	Y	Y	Y	Y	Y
A8.6.4 Display cases.	Y	Y	Y	Y	Y	Y	Y
Custom wood acoustic wall panels.	Y	Y	Y	Y	Y	Y	Y
Wood grilles with painted steel support and suspension grid system.	Y	Y	Y	Y	Y	Y	Y
Tackable fiber panels.	Y	Y	Y	Y	Y	Y	Y
Resin panels.	Y	Y	Y	Y	Y	Y	Y
Interior phenolic panel wall and flooring systems.	Y	Y	Y	Y	Y	Y	Y
Hardware for custom interior construction.	Y	Y	Y	Y	Y	Y	Y
Fiberglass grating for Vestibule roof.	Y	Y	Y	Y	Y	Y	Y
Stainless steel wall protection panels for walls behind sinks and for trash cabinets.	Y	Y	Y	Y	Y	Y	Y
A12.3.1 Furnish and install stainless steel backsplashes at all locations tagged 064020.67;	Y	Y	\$ 5,342	O \$ 5,342	Y	Y	Y
7,9,10/A8.6.6 Custom magnetic markerboard laminate panels. Include 064020.64 Markerboard, 064020.57 - & 064020.12 plywood	Y	Y			Y	Y	Y
Through-wall book drops.	Y	Y			Y	Y	Y
Coat wall hooks.	Y	Y			Y	Y	Y
A 1.2.9 Temporary wood and acrylic sheet guardrails at the Temporary Library within "Old Hall".	Y	Y			Y	Y	Y
Shop finishing for interior woodwork.	Y	Y			Y	Y	Y
A8.6.4 Slatwall type display panels at Life Skills Café - 17/A8.6.4	Y	Y			Y	Y	Y
DRAWING DETAILS							
SWING SPACE							
A1.2.8; A1.2.9 Swing space casework as shown at Temp LABBB classrooms wood guardrail at Temp Library	Y	Y	Y	Y	Y	Y	Y
NEW SCHOOL BLDG							

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		Steve Gentilucci	Gary Merksamer x1118	Alain Vachon	Josh Browning	Jeff Walkow/Grant Caldwell (VP)	Pam Fullerton Retracted pricing
Corridors C0-01, C2-01, C2-06, C30-06 locker pods per A8.5.1 laser cut graphics per 1,2/A8.5.1, cut into the panels		Y	All the panels will come pre-formed to the radius. And laser cut (not water jet), allow for graphics incl - 20k	Y	Y	Y	Y
2nd, 3rd, 4th, and 5th level Corridors in sections B, D tackable fiber paneling per A12.8.3, A, G, 7		Y	Y	Y	Y	Y	Y
V1-01 Vestibule	sf 820	Y	Y	Y	Y	Y	Y
ADD03, ADD005 Fiberglass grille on 3/4" plywood over steel decking (by others) at top of vestibule; grille to be divided into removable sections: 3'x5' max. size - 4/A8.4.3 (ADD05)		Y	Y	Y	Y	Y	061000.09 plywood excl
ADD01 108 Nurse's Office/Waiting Room wall hooks per 15/A8.6.6		Y	Y	Y	Y	Y	Y
ADD01 109 FACS Classroom wall hooks per 14/A8.6.6		Y	Y	Y	Y	Y	Y
ADD01 110 FACS Classroom wall hooks per 14/A8.6.6		Y	Y	Y	Y	Y	Y
114C Scramble Serving wood wall paneling per 6/A12.8.1 wood panel soffit per 8/A10.2.3		Y	Y	Y	Y	Y	Y
115 Cafeteria/Dining Cafeteria wall bench per 1/A8.6.1 North Entry bench per 3/A8.6.1 Forum Stairs per A10.3.1, S10.0; coordinate with steel subcontractor CP2-02 Corridor		Y	Y	Y	Y	Y	Y
A2.0c Preschool understair bench per 10/A8.6.1 Fiberglass grille on 3/4" plywood over steel decking at top of vestibule - 4/A8.4.3 (ADD05) Include 18/A8.6.2: 2"x 2" steel post frame included for courtyard window bay bench and similar benches		Y	Y	Plywood by drywall	Y	Y	Y
Details 1,2,3/A8.6.2. Include 064020.68 : OPAL POLYCARBONATE PANEL		Y	Y	Y	Y	Y	Y
P1-06 Gen Office Preschool Admin desk per 1/A8.6.3		Y	Y	Y	Y	Y	Y
P1-11 Preschool Multipurpose Preschool pegboard per 10/A8.6.5		Y	Y	Y	Y	Y	Y
C2-01A Corridor Display cases at gym per 16/A8.6.4. GLASS COMPONENTS by others		Y	Y	Y	Y	Y	Y
C2-01 Corridor Upper Forum seating area per 1/A8.6.5 Work Bars overlooking forum per 13/A8.6.5		Y	Y	Y	Y	Y	Y
C2-07 Corridor single tall displays per 13/A8.6.4		Y	Y	Y	Y	Y	Y
C2-08 Corridor single tall displays per 13/A8.6.4		Y	Y	Y			Y
STEAM small display per 14/A8.6.4		Y	Y				Y
C2-09 Corridor double tall displays per 12/A8.6.4		Y	Y	Y	Y	Y	Y
STEAM small display per 14/A8.6.4		Y	Y				Y
C2-12 Corridor Performing Arts/spine bench per 5/A8.6.1 Performance Arts counter per 12/A8.6.1		Y	Y	Y	Y	C \$ 5,000	Y
C2-15 Corridor Performing Arts understair bench per 7/A8.6.1		Y	Y	Y	Y	Y	Y
233 Life Skills - BUILDING D, A2.2d Life Skills Café per 4/A8.6.7; 14/A8.6.8 wood paneling per 2/A12.8.0b; includes z-clips and blocking display cases per 7/A8.6.4		Y	Y	Y	Y	Y	Y
21/A8.6.9 Wood paneling at performing arts		Y	Y	Y	Y	Y	Y
234 Auditorium, includes entrance Auditorium paneling and slat system per A8.7.1 through 8.7.9		Y	Y	Y	Y	Y	Y
5/A8.7.1 acoustical wall panel behind wood slats per detail (see 098400 below)		Y	Y	Y	Y	Y	Y
6/A8.7.3 wood slat ceilings clouds and associated trim at auditorium		Y	Y	Y	Y	Y	Y
Framing for the light alcove in 6/A8.7.3		Y	Framing by installer	Will ship as a unit with ve	Y	Y	Y
4/A8.7.3 2" acoustical panel above ceiling slats tagged 098400.16 (see 098400 below) at type B ceilings		Y	Y	Y	Y	Y	Y
4/A8.7.3 fabric behind wood slat at type C ceilings and as shown		Y	Y	Y	Y	Y	Y
4/A8.7.3 coordinate installation of slat system frame below drywall at type A ceilings. SLAT ONLY BY MILLWORKER		Y	Y	Y	Y	Y	Y
4/A8.7.3 & 5/A8.7.9 "Supporting grid system" tagged as 06402.71 in the AUDITORIUM and the PROSCENIUM only is by drywall sub		OK	OK	OK	OK	OK	OK
8/A8.7.4 Review walkway lighting detail at rear wall; coordinate installation with drywall and electrical subcontractors		Y	Y	Y	Y	Y	Y
A8.7.6 Maple wood grille panels at Proscenium walls, head, wood veneered panel at Stage front wall		Y	Y	Y	Y	Y	Y
A8.7.8 Auditorium entry - wall & ceiling faceted panels		Y	Y	Y	Y	Y	Y
C2-11 Lobby Auditorium displays per 10/A8.6.4		Y	Y	Y	Y	NIC	Y
Stair 9 Stair wall cap per 9/A10.2.1		Y	Y	N/A not shown	Y	Y	Y

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Stair 10 Stair wall cap per 7/A10.2.1		Y	Y	Y	Y	Y	Y
346 Library Library bench per 13/A8.6.2 Library Light Cone counter per 1/A8.6.8. Racks brackets are acceptable for the counters Media circulation desk per 12/A8.6.3		Y	Y	Y	Y	Y	Y
ADD03 Corridor C3-08 Fiberglass grille on 3/4" plywood over steel decking (w others) per A2.3d - 4/A8.4.3 (ADD05)		Y	Y	Y	Y	Y	Y
Corridors C3-11, C4-11 Courtyard Window Bay bench per 19/A8.6.2		Y	Y	Y	Y	Y	Y
Corridors C3-04, C3-09, C4-04, C4-09, CS-04, C5-09 Lightwell counter per 3/A8.6.8		Y	Y	Y	Y	Y	Y
C3-12 Corridor Corridor display per 9/A8.6.4 Third floor Overlook per 3/A8.6.5; Library entry display per 6/A8.6.4 Auditorium Balcony Lobby bench per 9/A8.6.2		Y	Y	Y	Y	C \$ 10,000	Y
C4-06 Corridor Corridor display per 9/A8.6.4		Y	Y	Y	Y	Y	Y
A2.0 Wood base per Master Room Finish Schedule: 13-3 Stair Forum Stairs per A10.3.2		Y	Y	Y	Y	Y	Y
A2.0 Resin composite/phenolic flooring system per Master Room Finish Schedule (designation B8) and per various details on A10.3.2.		Y	Y	Y	C \$ 30,000	Y	Y
5/A10.3.2 Leveling compound, vapor barrier, wood blocking and adhesive below phenolic panel flooring system Wood paneling and trim per Master Room Finish Schedule:		Y	Y	Y	Y incl abv	C \$ 5,000	Y
A8.6.9 Wood panel ceiling and soffits 105100-1 wood caps and end panels for lockers		Y	Y	Y	Y	Y	Y
A6.2.1, 2/A12.8.0b wood veneer plywood and edge banding at Fusco Building entrance Includes wood caps at partition types 15A and 15B per A8.1		Y	Y	Y	Y	Y	Y
14-2 Forum Stair C2-01 Corridor 234 Auditorium, second level 13/A9.4 wood spacer and blocking between double glazed interior borrowed lights		Y	Y	Y	Y	Y	Y
Plywood tagged as 064020.11, 12, 13 solid wood edge banding, tagged as 064020.15 Resin panels all metal, acrylic and electrical components integral to finish carpentry display cases per A8.6.4. No electrical fixtures, Cut outs only Glass fronts and shelves at display cases by glazing contractor. Provide adequate shop drawings and coordination assistance.		Y supplied by Vendor, Installed by Riggs	Y supplied by NEFS, Installed by Riggs	Y	Y supplied by Vendor, Installed by Riggs	C \$ 5,000	Y
Solid Surface Includes all solid surface sills and stools as shown and specified. Includes solid surface caps at partition types 14A and 14B per A8.1 116C Storage S1-10 Recycle/Trash 6-P2 Stair 6 227 Maker/Wood 516 Compass Life Skills A7.1.2 Solid surface stools at windows AW01 - AW15 A7.1.2 Solid surface stools at fiberglass sandwich panels FP01, FP02 A7.2.7 Solid surface stools at curtainwalls: CW14, CW15, CW49 Review ADD02 updates to stools per 4./A7.1.2		Y	Y	Y	Y	Y	Y
A7.2.7 Solid surface at curtainwalls: CW08, CW08A A9.4 Solid surface sills and blocking at borrowed lights per Borrowed Light & Glass Partition Schedule: BL sills 10, 11, 12, 15, 16 A9.4 Solid surface sills at transaction windows per Borrowed Light & Glass Partition Schedule: BL sill 6		Y	Y	Y	Y	Y	Y
5/A8.6.8 typ Steel brackets where noted as 064020.xx		Y	Y	Y	Y	Y	Y
098400 Acoustic Room Components (partial)							
5/A8.7.1 acoustical wall panel (AWP) type 4 behind wood slats at auditorium		Y	Y	Y	C \$ 34,615	Y	Y

Finish Carpentry		Total:	\$ 3,765,839	\$ 3,777,646	\$ 3,978,510	\$ 4,381,068	\$ 4,494,942	\$ 4,173,168
Arlington High School			Riggs Contracting, Inc. (w/Conigli NY Millshop)	New England Finish Systems, LLC (Millwork)	Polybois Inc.	Allegheny Millwork Incorporated	Millwork One	Mark Richey Woodworking and Design, Inc.
Amount in Estimate: \$ 3,553,853			(508) 473-2580	(603) 893-5083/603-212-6784	(418) 338-4638	(724) 873-8700	(508) 273-0500	(978) 499-3800
2.4, Section 098400	Basis of Design: PolySorb Architectural Audio Absorption Solutions. Overall System NRC: Not less than 0.75		Steve.Gentilucci@riggs-co.com	gmerksamer@nefinish.com	estimation@polybois.ca	ebanachoski@alleghenymillwork.com	ff Walkow <jwalkow@millworkone.com>	mrw@markrichey.com
4/A8.7.3	2" acoustical panel above ceiling slats, type 3 (AWP-3) tagged 098400.16		Steve Gentilucci	Gary Merksamer x1118	Alain Vachon	Josh Browning	Jeff Walkow/Grant Caldwell (VP)	Pam Fullerton
2.7, Section 098400	BLACK ARCHITECTURAL FIBERGLASS BOARDS							Retracted pricing
	Mfr: Conwed; SelectSound Black Acoustic Board, CertainTeed Corporation; CertaPro Acoustaboard, Johns Manville; InsulSHIELD Black , Knauf Insulation; Black Acoustical Board							
	Minimum density: 3.0 pounds-per-cubic foot glass fiber.							
	Sound-Absorption Performance: Minimum NRC 0.80."							
Installation	Delivery, distribution and Union installation of all products shown above and as related to this trade.		Y	Y	w/above	Y	Y	Y
	all setting in place and fastening as required.		Y	Y	C \$ 31,085	Y	Y	Y
	all scribing as required		Y	Y	w/above	Y	Y	Y
	all fasteners and hardware as required for installation		Y	Y	w/above	Y	Y	Y
	installing all hardware associated with this work.		Y	Y	w/above	Y	Y	Y
4/A7.1.2	caulking and sealing of finish carpentry scope of work where labeled 064020.xx (.21 typ).		Y	Y	v = \$1,600,000	by others	Y	by others
	all miscellaneous materials including fasteners, glue, shims, etc. for a complete installation		Y	Y		by others	Y	by others
	Carpenter steward while this trade has the majority of carpenters.		Y	Y		by others	Y	by others
	Installation per AWI standards		Y	Y		by others	Y	by others
Miscellaneous	Delivery of all furnished products to the job site.		Y	Y	Y	Y	Y	Y
	MULTIPLE DELIVERIES, LEAN CONSTRUCTION PRACTICE. MATERIALS THAT CAN BE INSTALLED IN THE NEXT (5) DAYS CAN BE STORED ON SITE		Y	Y	Y	Y	Y	Y
	Grommets as shown and specified.		Y	Y	Y	Y	Y	Y
	Edge details as shown.		Y	Y	Y	Y	Y	Y
	Follow AWI standards as indicated for fabrication and installation. NO (QCP labels per specifications)		Y	Y	Add \$9,210 if QCP labels required	Y	Y	Y
064020-4	Wood to be FSC certified		Y	Y		Y	Y	Y
	Touch up painting/priming		Y	N		Y	Y	Y
	Supply of all miscellaneous materials including fasteners, glue, etc.		Y	Y		Y	Y	Y
	All surface blocking, plywood, fasteners, adhesives, underlayment etc. required for installation		Y	Y		Y	Y	Y
	Mockups as required and specified		Y	Y		Y	Y	Y
01.29.21 Scope Meeting Follow up notes								
HMFH email 01.29.21	Confirm that the Stainless Steel backsplashes at all locations check the interior elevation drawings.		Y	Y	Y	Y	Y	Y
	Art Classroom sinks - 7/11/A12.3.1		Y	Y	Y	Y	Y	Y
	Compass Life Skills sink - 19/A12.1.2		Y	Y	Y	Y	Y	Y
	Maker/Engineering sink - 9/A12.4.1		Y	Y	Y	Y	Y	Y
	FACS classroom sinks - 1,3,4,16/A12.4.1 (5 total)		Y	Y	Y	Y	Y	Y
	Language Lab - Kitchen sink - 5/A12.6.2		Y	Y	Y	Y	Y	Y
	LAAA Comm sink - 6/A12.8.2		Y	Y	Y	Y	Y	Y
	Include 2"x 2" steel post frame for benches where indicated (one example 18/A8.6.2)		Y	Y	Y	Y	Y	Y
	DETAIL 5/A8.6.8 shows 1" X 1 - 1/2" TUBE STEEL welded to 1/4" x 5" x 1 1/2" STEEL plate however this can be a Racks bracket as confirmed by HMFH in 1/29 scope meeting.		Y	Racks bracket	Y	Y	Y	Y
HMFP's email requests 01.29.21								
	Supply Wood frames for doors Doors 346.1, 346.3, 334C.1, 434		Y	Y	Y	Y	Y	Y
	Install The above doors are indicated via the Head and Jamb detail to have a Wood Frame under Section 064020. Refer to Detail 05/A9.6.		Riggs \$ 4,468	Riggs \$ 4,468	O \$ 4,468	O \$ 4,468	O \$ 4,468	O \$ 4,468
	These occur within Wood Panelled walls shown on Drawing A8.6.9.		Y	Y	Y	Y	Y	Y
	These are all a pair of 3'-0" x 7'-0" Doors (Thus 6'-0" x 7'-0" frame clear opening.		Y	Y	Y	Y	Y	Y
	The door schedule mistakenly lists the frame as HM, though the detail is the below wood frame.		Y	Y	Y	Y	Y	Y
QUANTITIES								
BREAKOUT VALUES (\$\$ - included in values above)								
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS								
	Prevailing Wage per specifications		Y	Y	Y	Y	Y	Y
	Labor Affiliations - Indicate your affiliations.		Y	shop is not union	Y	shop is not union	Y	Y
	Union Carpenters and Laborers as applicable.		Y	Installer Union Carp	Y	Installer Union Carp	Y	N
	Layout from control provided by GC.		Y	Y	Y	Y	Y	Y
	Includes all field measurements as required.		Y	Y	Y	Y	Y	Y
	All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.		Y	w/installer	Y	w/installer	Y	w/installer
	All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.		Y	w/installer	Y	w/installer	Y	w/installer

Finish Carpentry		Total:	\$ 3,765,839	\$ 3,777,646	\$ 3,978,510	\$ 4,381,068	\$ 4,494,942	\$ 4,173,168
Arlington High School			Riggs Contracting, Inc. (w/Consignli NY Millshop)	New England Finish Systems, LLC (Millwork)	Polybois Inc.	Allegheny Millwork Incorporated	Millwork One	Mark Richey Woodworking and Design, Inc.
Amount in Estimate: \$ 3,553,853			(508) 473-2580 Steve.Gentilucci@riggs-co.com	(603) 893-5083/603-212-6784 gmerksamer@nefinish.com	(418) 338-4638 estimation@polybois.ca	(724) 873-8700 ebanachoski@alleghenymillwork.com	(508) 273-0500 Jeff Walkow <jwalkow@millworkone.com>	(978) 499-3800 mrw@markrichey.com
			Steve Gentilucci	Gary Merksamer x1118	Alain Vachon	Josh Browning	Jeff Walkow/Grant Caldwell (VP)	Pam Fullerton Retracted pricing
	Includes protection of all materials/equipment supplied by this subcontractor, stored on site.		Y	Y w/installer	Y	Y w/installer	Y	Y w/installer
	Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.		Y	Y w/installer	Y	Y w/installer	Y	Y w/installer
	All requisitions are to be done on Textura software.		Y	Y w/installer	Y	Y w/installer	Y	Y w/installer
EXCLUSIONS								
par 1.2.A.#16	(4) Exterior benches, tables and site memorials to be removed and reinstalled by others, landscaper		Y	Y	Y	Y	Y	Y
	Repair of salvage items		Y	Y	Y	Y	Y	Y
	The ceiling suspension system outside the Auditorium for keynote item 06402.71 in details 5 / A8.7.9 (for the Auditorium Entryway). This will need design		Y	Y	Y	Y	Y	Y
A8.6.4	Glass shelves at display cabinets, tagged as 088000.02		Y	Y	Y	Y	Y	Y
A3.6	C4A, wood baffle system - w 095100.24		Y	Y	Y	Y	Y	Y
A3.6	C6, wood plank system - w 098400		Y	Y	Y	Y	Y	Y
	Items noted as EBP3 per sheets A1.1.1 thru A1.1.4		Y	Y	Y	Y	Y	Y
	FRP panels - w drywall subcontractor		Y	Y	Y	Y	Y	Y
7/A8.6.7; ADD04	Thinset wall tile at concealed bin base - w tiling subcontractor		Y	Y	Y	Y	Y	Y
8/A8.6.7; ADD04	Thinset wall tile at Cafe counter trash - w tiling subcontractor		Y	Y	Y	Y	Y	Y
	Resilient base - w resilient flooring subcontractor							
SCHEDULE REQUIREMENTS								
Lead Times								
Samples	WKS		3-4 weeks	3 weeks	8 weeks	8 weeks	8 weeks	8 weeks
Submittals	WKS		PH+1 2 3 wks. Panels 6-8 weeks	Phase 1 shop drawings 3 weeks. Panels 8 weeks	16 weeks	16 weeks	16 weeks	16 weeks
Materials (from approval)	WKS		8-12 Weeks	8 weeks	12 weeks	12 weeks	12 weeks	12 weeks
Schedule of Work. Reference teh milestone schedule issued with thE C.M's supplemental instructions								
Phase 01 Approximate start June 24th. Approximate completion date by August 23rd, 2021			Y	Y	Y	Y	Y	Y
Phase 2 and 3 in accordance with the milestone schedule			Y	Y	Y	Y	Y	Y
Provisions for phasing as required			Y	Y	Y	Y	Y	Y
Includes all mobilizations as required			Y	Y	Y	Y	Y	Y
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS								
PREQUALIFICATION STATUS								
Subcontractor Total:			\$ 3,720,839	\$ 3,732,646	\$ 3,933,510	\$ 4,336,068	\$ 4,449,942	\$ 4,128,168
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE								
HOLD	Additional framing, plywood back up for Finish Carpentry panels	1 ls	\$ 45,000	C \$ 45,000	C \$ 45,000	C \$ 45,000	C \$ 45,000	C \$ 45,000
Holds/Allowances Total:			\$ 45,000	\$ 3,765,839	\$ 3,777,646	\$ 3,978,510	\$ 4,381,068	\$ 4,494,942
ALTERNATES								
HMFH's email requests 01.29.21								
Add alternate to furnish (7) ADA Locker room benches and brackets. Benches to be solid surface			S \$ 5,589	S \$ 5,884	No bid	No bid	No bid	No bid
Add alternate to install Solid surface Locker room benches (section 15, reference HMFH email)			\$ 1,989	\$ 1,989	No bid	No bid	No bid	No bid



CONSIGLI
Est. 1905

February 22, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 31 – Sprayed Acoustic Insulation

Dear Jim,

We have completed our review of the proposals for the **Sprayed Acoustic Insulation** work and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Acoustical Thermal Insulators, Inc.**, for the **Sprayed Acoustic Insulation work** in the amount of **\$412,800**. Please find a summary of the award below. We request that an additional sum of **\$20,000** be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Sprayed Acoustic Insulation	
GMP estimate dated 11.24.20	\$457,268
Subcontract award value	\$412,800
Holds included outside the Subcontractor's award value	
Patching @ \$2,500/day + lift	\$20,000
Total award value for Sprayed Acoustic Insulation work	\$432,800
Savings against the GMP budget	\$24,468

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____

James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Spray Acoustic Insulation		Total:	\$ 432,800	\$ 451,900	\$ 498,000
Arlington High School		 CONSIGLI	Acoustical Thermal Insulators, Inc. (508) 678-1118 ext 103. cell: 774.488.9353	Specialty Insulation Group, LLC (781) 322-7800/cell:617.839.1035	Select Spray Systems LLC (603) 386-0391
Amount in Estimate: \$ 457,268			porated.com/johnv@atiinc@specialtyinsulationgroup.cohnson@selectspraysystems.c		
CONTRACT DOCUMENTS			John Villa	Peter Kidney x103	Scott Johnson
Drawings prepared by: HMFH Architects dated October 7, 2020				alternate products	alternate products
Specifications prepared by: HMFH Architects dated 10/7/20 including:			Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.			Y	Y	Y
Section 018110, SUSTAINABLE DESIGN REQUIREMENTS			Y		
Section 007225 - CM's Supplemental Instructions dated 10/07/20			Y	Y	Y
Section 098120 - Sprayed Acoustic Insulation			Y	Y	Y
Addenda prepared by: HMFH Architects			Y	Y	Y
Addendum 01 , dated 10/16/20			Y	Y	Y
Addendum 02 , dated 10/23/20			Y	Y	Y
Addendum 03 , dated 10/28/20			Y	Y	Y
Addendum 04 , dated 11/2/20			Y	Y	Y
Addendum 05 , dated 11/5/20			Y	Y	Y
Addendum 06 , dated 11/6/20			Y	Y	Y
Compliance with Owner's contract (spec 005223)			Y	Y	Y
Compliance with Consigli contract			Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:			Y	Y	Y
Section B - Quality Plan			Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)			Y	Y	Y
Section E - Project Safety Requirements			Y	Y	Y
Section F - Lean Requirements			Y	Y	Y
Section G - Logistics/CMP Plan			Y	Y	Y
Section H - Schedule			Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan			Y	Y	Y
RFI Log dated 11/02/2020			Y	Y	Y
RFI 187 email RESPONSE from HMFH dated 02.04.21			Y	Y	Y
SCOPE OF WORK			\$ 412,800	\$ 219,000	\$ 449,000
General				(INCOMPLETE)	
Work of this trade applies to phases 1-3			Y	Y	Y
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.			Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.			Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.			Y	Y	Y

Spray Acoustic Insulation		Total:	\$ 432,800	\$ 451,900	\$ 498,000
Arlington High School		 CONSIGLI	Acoustical Thermal Insulators, Inc. (508) 678-1118 ext 103. cell: 774.488.9353	Specialty Insulation Group, LLC (781) 322-7800/cell:617.839.1035	Select Spray Systems LLC (603) 386-0391
Amount in Estimate: \$ 457,268			porated.com/johnv@atiinc.com	specialtyinsulationgroup.com	johnson@selectspraysystems.c
Refer to A1.2.1 thru A1.5 for phasing of this project			John Villa	Peter Kidney x103	Scott Johnson
098120 Sprayed Acoustic Insulation				alternate products	alternate products
Provide labor, materials and equipment necessary to complete the following work:			Y	Y	Y
Spray-applied acoustic insulation, cellulose			Y	Y	Y
Furnish and install C3, K-13 by International Cellulose Corp (spray-applied acoustic insulation, cellulose) <u>OR</u> <u>ARCHITECT APPROVED EQUAL</u>			Y K-13	N TC-417 spray fiberglass ALT	N Sonoglass
Colors: Provide 2 different colors as selected by Architect from manufacturers full range			Y	Y	Y
NRC not less than .80			Y	Y	Y
Flame spread and smoke density specified			Y		
A3.6 include at ceiling types C3, C4A, C4B, maker space			Y	Y	Y
Includes at ceilings- GMP RFI A48 and HMFH (email dated 10.31.20)			Y	Y	Y
HMFH email dated 10.31.20 for GMP RFI # A48, Detail 4/A7.2.10. This is the detail for the elliptical lightwell in Part b and Part d. The acoustic spray insulation keynote 098120.01 (K-13) occurs at the entirety of the horizontal ceiling surface. Detail 4/A7.2.10 indicates this in conjunction with the ceiling plan which shows Ceiling Type tag C3 (and the dot hatch).			Y		
3/A3.8 at ceiling below skylight types US04, US05, US08, see gray area on RCPs		K-13 finish	Y	N	Y
4/A7.2.10 at ceiling adjacent to modular skylights (The (2) Ellipticals in Steam (D) & Humanities (B)		K-13 finish	Y	N	Y
Spray-applied acoustic finish system.				O \$ 183,900	
RFI A9 Furnish and install spray-applied acoustic finish system as shown by one of the following manufactures (please specify): International Cellulose Corp - SonaSpray; Pyrok - Acoustement Plaster 20 ; or USG - Acousti Plaster Finish			Y Sonospray FC	Y USG Acousti Plaster Finish	Sonoglass (N FIBERGLASS product)
Color: Manufacturer's standard color as selected by Architect.			Y		
Thickness: Apply at a minimum thickness to achieve NRC-0.60 minimum, unless indicated otherwise			Y	Y	Y
Flame spread and smoke density specified			Y		
1.4 Finish Mockups: Apply mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and qualities of materials and execution			Y	Y	Y
Includes locations within lightwells:					
3/A8.3.3 Library Cones (2)			Y	Y	Y
8/A3.8: Spine skylight/Library cones skylight type US06			Y	N	Y
2/A8.3.1 Trapezoid skylights in building D & B - 8/A12.8.7 Part D lightwell south wall & 4/A12.8.4 for building B			Y	Y	Y
3/A3.8: Skylight types at the Trapezoid US04, US05, US08			Y	N	Y
A2.3B, 6/A8.3.1 SECTION AT GYM/LIBRARY LIGHTWELL (RFI 187 email RESPONSE from HMFH dated 02.04.21)			Y v = \$29,000	O \$ 29,000	O \$ 29,000

Spray Acoustic Insulation		Total:	\$ 432,800	\$ 451,900	\$ 498,000
Arlington High School		 CONIGLI	Acoustical Thermal Insulators, Inc. (508) 678-1118 ext 103. cell: 774.488.9353	Specialty Insulation Group, LLC (781) 322-7800/cell:617.839.1035	Select Spray Systems LLC (603) 386-0391
Amount in Estimate: \$ 457,268			porated.com/johnv@atiinc.com	specialtyinsulationgroup.com	johnson@selectspraysystems.c
10, 9/A3.8, ALSO REFERENCE 13/A12.9 RCP plan A3.2C & 12- 15/A12.9 RCP plan A3.2,1- 4/A12.2.1	Reference A2.2C, RCP A3.2C Building C skylights, skylight type US01		John Villa	Peter Kidney x103 alternate products	Scott Johnson alternate products
7/A3.8	School committee skylights	Y	Y	Y	Y
Also see interior elev 4/A12.8.4; 2/A12.8.6; 8/A12.8.7; and Where noted as 098120.01.02		Y	Y	Y	Y
Includes all accessories, etc. as required for complete installation		Y	Y	Y	Y
Includes 6" x 6" sample		Y	Y	Y	Y
QUANTITIES					
Manhours		3000 man hours	No information	2440 man hours	
SF of K13		25,000 SF	No information	49,600 sf	
SF of Sonocoat		20,000 SF	No information	Y incl abv	
BREAKOUT VALUES (\$\$ - included in values above)					
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS					
Prevailing Wage per specifications		Y union	Y union	Y	
Labor Affiliations - indicate your affiliations.		Laborers	carpenters/ painters	Y	
Union Carpenters and Laborers as applicable.		Y Laborers	Y	Y	
Layout from control provided by GC.		Y	Y	Y	
Includes all field measurements as required.		Y	Y	Y	
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.		Y	Y	Y	
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.		Y	Y	Y	
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.		Y	Y	Y	
6'0" fall protection.		Y	Y	Y	
All offsite storage costs required for the completion of work of this trade.		Y	Y	Y	
Complete work of this trade as shown on all contract documents including A's, S's, MEP's, etc.		Y	Y	Y	
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.		Y	Y	Y	
All requisitions are to be done on Textura software.		Y	Y	Y	

Spray Acoustic Insulation		Total:	\$ 432,800	\$ 451,900	\$ 498,000
Arlington High School		 CONSIGLI	Acoustical Thermal Insulators, Inc. (508) 678-1118 ext 103. cell: 774.488.9353	Specialty Insulation Group, LLC (781) 322- 7800/cell:617.839.1035	Select Spray Systems LLC (603) 386-0391
Amount in Estimate: \$ 457,268			porated.com/johnv@atiinc@specialtyinsulationgroup.cohnson@selectspraysystems.c	John Villa Peter Kidney x103 alternate products	Scott Johnson alternate products
EXCLUSIONS					
Items noted as EBP3 per sheets A1.1.1 thru A1.1.4			Y	Y	Y
Skylights on A3.8 details for 1 & 1A (Gymnasium), 2 & 2A (Smart Cntr. & Language Lab), 4 (Locker Pod), 11 (District Offices) & 12 (Library) - this is not the library cone detail.		not defined in RFI 187	Y	Y	Y
4/A7.2.10 <u>Elliptical skylights:</u> Detail 4/A7.2.10 : Vertical surfaces of the elliptical skylights, enough K-13 here does not require Sona spray. (See HMFH email response dated 02.04.21 RFI 187)	Question #1	ok	Y	Y	Y
Building E skylights US 04& US 05 as noted in detail 3/A3.8 because none of the adjacent skylights in this area are getting the sprayed acoustic finish (See HMFH email response dated 02.04.21 RFI 187)	Question #3	ok	Y	Y	Y
Primers and sealers (NOT required per the Basis of Design MFR)					
Provisions for off-hour work as required.			N	N	N
SCHEDULE REQUIREMENTS					
PRE-QUALIFICATION					
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS					
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE	Subcontractor Total:			\$ 412,800	\$ 431,900
Patching @ \$2500/day + lift	1	Is	\$ 20,000	C \$ 20,000	C \$ 20,000
	Holds/Allowances Total: \$ 20,000				



CONSIGLI
Est. 1905

February 22, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 32 – Acoustical Room Components

Dear Jim,

We have completed our review of the proposals for the **Acoustical room components** work and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **K & K Acoustical Ceilings, Inc.**, in the amount of **\$240,800**. Please find a summary of the award below. We request that an additional sum of **\$150,000** be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Acoustical Room Components	
GMP estimate dated 11.24.20	\$440,800
Subcontract award value	\$240,800
Holds included outside the Subcontractor's award value	
Supplemental access (temporary staging /work platform) for light wells	\$100,000
Trade support	\$50,000
Total award value for Acoustical Room Components	\$390,800
Savings against the GMP budget	\$50,000

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Acoustical Room Components	Subguard:	3373 - P/P/P/15.0M	3538 - P/P/P/1000K
Arlington High School	Total:	\$ 390,800	\$ 400,860
Amount in Estimate: \$ 440,800	K & K Acoustical Ceilings, Inc. (978) 851-8844 kevinkontos@kkacousticalceilings.com Kevin Kontos x102	New England Interior Specialties, Inc. (508) 528-8087 gpowersjr@neinterior.com Gary JR. Powers x14	
CONTRACT DOCUMENTS			
Drawings prepared by: HMFH Architects dated October 7, 2020	Y	Y	
Specifications prepared by: HMFH Architects dated 10/7/20 including:	Y	Y	
Compliance with all Division 0 and 1 specifications as applicable.	Y	Y	
Section 018110, SUSTAINABLE DESIGN REQUIREMENT			
Section 007225 - CM's Supplemental Instructions dated 10/07/20	Y	Y	
Section 098400 - Acoustic Room Components	Y	Y	
Addenda prepared by: HMFH Architects	Y	Y	
Addendum 01 , dated 10/16/20	Y	Y	
Addendum 02 , dated 10/23/20	Y	Y	
Addendum 03 , dated 10/28/20	Y	Y	
Addendum 04 , dated 11/2/20	Y	Y	
Addendum 05 , dated 11/5/20	Y	Y	
Addendum 06 , dated 11/6/20	Y	Y	
Compliance with Owner's contract (spec 005223)	Y	Y	
Compliance with Consigli contract	Y	Y	
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:	Y	Y	
Section B - Quality Plan	Y	Y	
Section C - 3D Coordination Specification (as applicable to this trade)	Y	Y	
Section E - Project Safety Requirements	Y	Y	
Section F - Lean Requirements	Y	Y	
Section G - Logistics/CMP Plan , phasing plan	Y	Y	
Section H - Schedule	Y	Y	
Section O - COVID-19 Site Specific Safety Plan	Y	Y	
RFI Log dated 11/02/2020	Y	Y	
SCOPE OF WORK	\$ 240,800	\$ 304,250	
General			
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.	Y	Y	
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.	Y	Y	

Acoustical Room Components		Total:	\$	390,800	\$	400,860
Arlington High School			K & K Acoustical Ceilings, Inc. (978) 851-8844 kevinkontos@kkacousticalceilings.com Kevin Kontos x102		New England Interior Specialties, Inc. (508) 528-8087 gpowersjr@neinterior.com Gary JR. Powers x14	
Amount in Estimate: \$ 440,800						
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.			Y		Y	
Work By Others						
Millwork:						
5/A8.7.1	acoustical wall panel (AWP-4) behind wood slats at auditorium		Y		S \$	(34,615)
4/A8.7.3	2" acoustical panel above ceiling slats, type 3 (AWP-3) tagged 098400.16		Y		S \$	(24,775)
Acoustical ceilings:						
spec 095100 (TRADE SUB) RFI A47	Ceiling type C1G at Band 239 and Chorus 344		Y		Y	
spec 095100	Ceiling type C5B at Dlab 434 suspended cloud		Y		Y	
Spray Insulation			Y			
A3.8	098120.01 and .02 -Sprayed acoustical insulation, mostly at skylights and skywells		Y		Y	
098400	Acoustic Room Components		Y		Y	
1.4 D	Requirements of Regulatory Agencies: Acoustical panels shall comply with local applicable Building Code fire-resistant requirements for interior finish and shall be classified as Class A material		Y		Y	
	Maximum flame spread and smoke-developed index: 0-25, 0-450.		Y		Y	
	Testing: ASTM E 84		Y		Y	
2.1	Sustainable design requirements: FSC certified wood, low emitting materials		Y		Y	
par 2.1; 098400.08	AWP-1, wood fiber absorption panel for all locations as shown including but not limited to the following:	sf	8,200 SF		8,189 sf	
A12.2.1	Pre-K multi-purpose room		Y		Y	
A12.3.1	Band		Y		Y	
A12.3.2	Chorus, Ensemble; Practice; Production Lab		Y		Y	
A12.5.1; RFI A49	Gym and Fitness		Y		Y	
A12.5.3	Alt PE		Y		Y	
A12.5.4	Locker rooms		Y		Y	
	by one of the following manufacturers (please specify): Armstrong - Tectum Finale Custom Acoustical Wall Panels; Cardinal Complete; Acoustex Specialty Product - Acoustex-Plank; or Troldtekt A/S - Troldtekt Acoustic Panels		Y	one of the specified	Y	CARDINAL COMPLETE
	Includes factory painted white finish panels.		Y		Y	
	Provide (4) custom colors at Preschool locations only		Y		Y	

Acoustical Room Components		Total:	\$	390,800	\$	400,860
Arlington High School			K & K Acoustical Ceilings, Inc. (978) 851-8844 kevinkontos@kkacousticalceilings.com Kevin Kontos x102		New England Interior Specialties, Inc. (508) 528-8087 gpowersjr@neinterior.com Gary JR. Powers x14	
Amount in Estimate: \$ 440,800						
NRC: Minimum NRC rating of 0.85.			Y		Y	
Edge Types: Beveled on all edges			Y		Y	
Fasteners: Exposed and painted to match panel			Y		Y	
Size: 2" thick. 23 3/4" or 47 3/4" wide by lengths as indicated on Drawings			Y		Y	
par 2.2; 098400.09	AWP-2, fiberglass acoustic panel for all locations as shown including but not limited to the following:	sf	2,500 SF		2,292sf	
A12.6.1	Library including sloped skywell		Y		Y	
A12.7.1; RFI A50	D-Lab		Y		Y	
A12.8.0b	Cafeteria/Spine		Y		Y	
by one of the following manufacturers (please specify): Armstrong - Soundscapes; CertainTeed - Ecophan Solo; or Decoustics - Claro Panel			Y	one of the specified	Y	DECOUSTICS - CLARO
Nominal Core Thickness: 1 inch			Y		Y	
NRC not less than .75—.85			Y		Y	
Overall System NRC: Not less than 0.85, for Type F5 mounting per ASTM E 795.			Y		Y	
Panel Width and height as indicated on Drawings			Y		Y	
Includes custom shapes and sizes per drawings			Y		Y	
Panel Edge Detail: Square, corner detail: square			Y		Y	
Factory Painted-Finish Panels: Manufacturer's acoustically transparent finish in up to s standard colors as selected by the Architect from manufacturer's full range.			Y		Y	
<u>Back-Mounting Devices: Concealed on backside of panel, recommended to support weight of panel, and as recommended by manufacturer to suit substrate and structure.</u>			Y		Y	
Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch for thickness, edge straightness, overall length and width, squaremenss from corner to corner, chords, radii and diameters			Y		Y	
par 2.3; 098400.16	AWP-3, polyester felt panel for all locations as shown including but not limited to the following:	sf	800 SF		711 SF	
A12.7.1	Performing Arts (at catwalk level)		Y		Y	
CertPro AcousaBoard Black CB300; Conwed - SelectSound Black Acoustic Board; Johns Manville - InsulSHIELD Black; or Knauf Insulation - Black Acoustical Board			Y		Y	CONWED
NRC not less than .85 .75			Y		Y	
Thickness, Width, height: As indicated on Drawings.			Y		Y	
Panel Edge Detail: Square			Y		Y	
par 2.5; 098400.21	AWP-5, fabric wrapped panel for all locations as shown including but not limited to the following:	sf	300 SF		320 sf	
A12.7.2	Auditorium (rear)		Y		Y	
by Conwed Respond A			Y		Y	CONWED

Acoustical Room Components		Total:	\$	390,800	\$	400,860
Arlington High School			K & K Acoustical Ceilings, Inc.		New England Interior Specialties, Inc.	
			(978) 851-8844		(508) 528-8087	
			kevinkontos@kkacousticalceilings.com		gpowersjr@neinterior.com	
Amount in Estimate: \$ 440,800			Kevin Kontos x102		Gary JR. Powers x14	
NRC not less than .90			Y		Y	
Thickness, Width, height: As indicated on Drawings.			Y		Y	
Panel Edge Detail: Square			Y		Y	
Facing Material: Fabric to be selected by Architect from Manufacturer's full range			Y		Y	
Back-Mounting Devices: Concealed on backside of panel, recommended to support weight of panel, and as follows:			Y		Y	
Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch for thickness, edge straightness, overall length and width, squaremenss from corner to corner, chords, radii and diameters			Y		Y	
Facing Material: Fabric to be selected by Architect from Manufacturer's full range			Y		Y	\$35/fabric allowance. I(includes Guilford of Maine - FR7-1 line , Maharam & Carnegie)
par 2.6; 098400.12	Acoustic reflectors for all locations as shown including but not limited to the following:as shown					
	Auditorium 1/A8.3.2, 3/A8.7.3)		Y		Y	
Reflector panels shall be fabricated to the sizes shown on the drawings as single units without visible joints or seams.			Y		Y	
by Kinetics Noise Control - Ovation Reflector Panels; Northwest Wood Products; or Wenger			Y		Y	MFR:KINETICS
Radiused/ bowed panel system consisting of a 1/2" (13 mm), 5-ply plywood core with 15 mil (.375 mm) fiber reinforced gel coat on back of panel.			Y		Y	
Face: 15 mil smooth finished gel coat with matte black finish.			Y		Y	
Reflector Panel edges shall be painted to a finish similar to the exposed face			Y		Y	
Suspension and Flexing system: 1/8" (3 mm) steel angle painted black and 1/4" (6 mm) diameter zinc plated tensioning rods mounted on the top (unexposed) side of the Reflector Panel			Y		Y	
Panels shall be shipped flat and bowed in the field to Architect's specifications before installation			Y		Y	
Suspension system: 1/8" diameter, 7 x 19 <u>stainless steel cable</u> thimble and double crimp sleeves. Suspension shall be securely fastened to Unistrut support framing.			Y		Y	
3.2C	Attach suspension system to structure and include all fasteners, accessories, and components for a complete installation.		Y		Y	
	Provide cut-outs and trim where required to coordinate with other ceiling mounted items.		Y		Y	
Installation shall be in accordance with PART 3 - Execution of the specifications, tolerances as specified			Y		Y	
Provide Unistrut support framing system as required for each acoustic room component above			Y		Y	
DELEGATED DESIGN: For acoustic room components indicated to comply with performance requirements and design criteria, including structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.			Y		C \$ 3,000	

Acoustical Room Components		Total:	\$	390,800	\$	400,860
Arlington High School			K & K Acoustical Ceilings, Inc. (978) 851-8844 kevinkontos@kkacousticalceilings.com Kevin Kontos x102		New England Interior Specialties, Inc. (508) 528-8087 gpowersjr@neinterior.com Gary JR. Powers x14	
Amount in Estimate: \$ 440,800						
Includes custom shapes and sizes per drawings			Y		Y	
1.7	Includes 2 year standard manufacturer warranty		Y		Y	
QUANTITIES						
Manhours				600 MH		896 MH
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS						
Prevailing Wage per specifications			Y		Y	
Labor Affiliations - indicate your affiliations.			Y	Union	Y	Union
Union Carpenters and Laborers as applicable.			Y	Carpenters	Y	Carpenters
Includes all field measurements as required.			Y		Y	
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.			Y		Y	
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.			Y		Y	
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.			Y		Y	
Provisions for off-hour work as required.			Y		Y	
Inclusion of all materials & labor price increases for the duration of the project.			Y		Y	
Inclusion of any and all tariffs in place, and known about, as applicable, at the time of a signed contract agreement.			Y		Y	
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.			Y		Y	
EXCLUSIONS						
Tackable fiber panels - w finish carpentry subcontractor			Y		Y	
In-wall and -ceiling blocking - w drywall subcontractor			Y		Y	
Painting of acoustic absorption wall panels - w paint subcontractor			Y		Y	
C1G , Geometric Sound Diffuser Panels - w ACT subcontractor			Y		Y	
C3 , spray applied acoustic treatment - w spray insulation subcontractor			Y		Y	
C6 , Wood panel system - w ACT subcontractor			Y		Y	
092900.32	Reflective panels behind wood grille ceiling system - w ACT subcontractor		Y		Y	
064020	Black acoustically transparent fabric behind wood grille ceiling system - w finish carpentry subcontractor		Y		Y	
SCHEDULE REQUIREMENTS						
PRE-QUALIFICATION						

Acoustical Room Components		Total:	\$	390,800	\$	400,860
Arlington High School	 CONSIGLI		K & K Acoustical Ceilings, Inc. (978) 851-8844 kevinkontos@kkacousticalceilings.com Kevin Kontos x102	New England Interior Specialties, Inc. (508) 528-8087 gpowersjr@neinterior.com Gary JR. Powers x14		
Amount in Estimate: \$ 440,800						
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS						
		Subcontractor Total:	\$	240,800	\$	250,860
UNIT PRICES						
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE						
	Supplemental access (temporary staging/work platform) for light wells	1 ls	\$ 100,000	c \$ 100,000	c \$ 100,000	
	Trade support	1 ls	\$ 50,000	c \$ 50,000	c \$ 50,000	
		Holds/Allowances Total:	\$ 150,000			



CONSIGLI

Est. 1905

February 22, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
 GMP
Owner Approval Letter No. 33 – Metal Panels & Sintered Stone

Dear Jim,

We have completed our review of the proposals for the Metal & Sintered Stone panels and exterior column cover work and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **TJ McCartney, Inc.**, in the amount of **\$1,441,000.**, for the metal panel work and **Colony drywall** for the installation of the exterior column covers in the amount of **\$30,000**. Please find a summary of the award below. We request that an additional sum of **\$130,000** be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Metal panel and Exterior column covers	
GMP estimate dated 11.24.20	\$1,827,800
Subcontract award value – TJ McCartney, Inc.	\$1,441,000
Subcontract award value – Colony Drywall.	\$30,000
Holds included outside the Subcontractor's award value	
Mock- up if it is larger than 3' x 3'	\$10,000
Custom Color for composite panels to match the color selection provided for the Curtainwall Canopies under Section 084410	\$15,000
Additional roof protection required during the installation of metal panel work	\$60,000
Snow & ice removal	\$25,000
Support for installation of exterior column covers	\$20,000
Total award value for Metal Panel & Exterior column covers	\$1,601,000
Savings against the GMP budget	\$226,800

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Siding - Metal Panels & Sintered Stone	Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
Arlington High School		TJ McCartney, Inc. 603.548.8438/CELL Mike: 603.521.5560 K.Brown@timinc.com Kenneth Brown, Mike Barry	Riggs Contracting, Inc. (508) 473-2580 Steve.Gentilucci@riggs-co.com Congke li/Steve Gentilucci	R&R Window Contractors, Inc. (413) 527-7500 dlafosse@rrwindow.com David LaFosse
Amount in Estimate: \$ 1,827,800				
GMP dated 11.24.20				
CONTRACT DOCUMENTS				
Drawings prepared by: HMFH Architects dated October 7, 2020		Y	Y	T
Specifications prepared by: HMFH Architects dated 10/7/20 including:		Y	Y	
Compliance with all Division 0 and 1 specifications as applicable.		Y	Y	Y
Section 007225 - C.M.'s Supplemental Instructions dated 10/07/20		Y	Y	Y
Section 074200 - Metal Wall Panels		Y	Y	Y
Section 074210 - Wall Cladding Support System		Y	Y	Y
Section 074249 - Sintered Stone Wall Cladding System		Y	Y	Y
Section 072100 – THERMAL INSULATION (for work associated with this trade)		Y	Y	Y
Addenda prepared by: HMFH Architects		Y	Y	Y
Addendum 01 , dated 10/16/20		Y	Y	Y
Addendum 02 , dated 10/23/20		Y	Y	Y
Addendum 03 , dated 10/28/20		Y	Y	Y
Addendum 04 , dated 11/2/20		Y	Y	Y
Addendum 05 , dated 11/5/20		Y	Y	Y
Addendum 06 , dated 11/6/20		Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.		Y	Y	Y
Compliance with Owner's contract (spec 005223)		Y	Y	Y
Compliance with Consigli contract		Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders complete		Y	Y	Y
Section B - Quality Plan		Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)		N/A	N/A	N/A
Section E - Project Safety Requirements		Y	Y	Y
Section F - Lean Requirements		Y	Y	Y
Section G - Logistics/CMP Plan		Y	Y	Y
Section H - Schedule		Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan		Y	Y	Y
GMP RFI Log dated 11/3/20		Y	Y	Y
RFI # 178 dated 02.03.21 (Finish coats)		Y	Y	Y
SCOPE OF WORK		\$ 1,488,000	\$ 1,588,000	\$ 1,914,000
General				
Work of this trade applies to phases 1-3		Y		Y
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.		Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.		Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.		Y	Y	Y
There may be hidden elevations not shown on the drawings. This contractor is to use both plan and elevations to determine extent of exterior wall panels. If an elevation above the roof line is not shown assume it is a metal panel unless indicated otherwise.		Y	Y	Y

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
Arlington High School			TJ McCartney, Inc. 603.548.8438/CELL Mike: 603.521.5560 K.Brown@timinc.com Kenneth Brown, Mike Barry	Riggs Contracting, Inc. (508) 473-2580 Steve.Gentilucci@riggs-co.com Congke li/Steve Gentilucci	R&R Window Contractors, Inc. (413) 527-7500 dlafosse@rrwindow.com David LaFosse
Amount in Estimate: \$ 1,827,800					
<i>GMP dated 11.24.20</i>					
074200	Metal Wall Panels				
	Furnish & install the metal wall panel assembly including the metal wall panels, attachment system components, miscellaneous metal framing, and accessories necessary for a complete system.		Y	Y	Y
1.2	Scope shall include				
	Exposed fastener lap-seam metal wall panels		Y	Y	Y
	Acoustic barrier screen metal wall panels for mounting on roof.		Y	Y	Y
	Metal-faced composite metal wall panels		Y	Y	Y
2.6 B	Roof Trim: Provide trim for finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, end walls, framed openings. (Gravel stops and parapet caps are excluded)		Y	Y	Y
	Metal support system		Y	Y	Y
	Accessories		Y	Y	Y
Paragraph 1.4	Engineered shop drawings for the performance requirements and design criteria specified. Provide comprehensive engineering analysis by a qualified professional engineer registered in the State of MA,		Y	Y	Y
par 1.5.C	Mock-up		To be maximum 3' x3' sample. Post painted if custom color required	Y	Y
Paragraph 1.10, Page 10	WARRANTY as specified				Y
	Standard Warranty: Manufacturer's standard 2 year warranty for perforated panels and 10 year warranty for solid panels, for failures including but not limited to structural failures, including rupturing, cracking, or puncturing		Y	Y	Y
	Special Installer's Warranty: to repair or replace failed metal panels - Two years from date of Substantial Completion.		Y	Y	Y
	Special Warranty on Panel Finishes: repair finish or replace metal wall panel with deteriorated finish. 20 years from date of Substantial Completion.		Y	Y	Y
2.1	<u>Exposed fastener, lap-seam metal wall panels. WB-1 on A6.1.3</u>				Y
	Reference exterior elevations A4.3.3 through A4.3.9, Isometric views A4.2.1 & A4.2.2		Y	Y	Y
	Basis of Design "morin C-40		Y	Y	Y
	Other specified MFR's Centria, Fabral, Morin, Reynolds OR Approved equal	State the MFR	One of the specified	PETERSON ALUMINUM as EQUAL.	one of the specified
	Corrugated profile, Aluminum sheet, 0.040 inch (1.02 mm) thick,		Y	Y	Y
	Finish: 3-coat fluoropolymer, 2 coats on the rear side (RFI #178, per HMFH email 01.21.21)		Y	Y	Y
	Color: Manufacturer's standard colors as selected by Architect. (Classic metallic standard colors, no custom colors)		Y	Y	Y
	Radius: Form metal panels to radius indicated on drawings.		Y	Y	Y
	Seal joints in metal wall panels		Y	Y	Y
	Furnish & install 4" mineral wool insulation (section 072100)		Y	Y	Y
	Furnish & install flashing , trim and closure details as indicated. Excludes Aluminum extrusions		Y	Y	
	head & jamb of windows/door		Y	Y	Y
	Sills of windows		Y	Y	Y
	Corners /Base trim		Y	Y	Y
	Expansion joint covers		Y	Y	Y
	Review Details				
	2/A6.1.3 - Section 074200.19 continuous trim		Y	Y	Y
	5/A7.1.2 - Typical at head in WB1 , 074200.41 aluminum head flashing		Y	Y	Y

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
Arlington High School			TJ McCartney, Inc. 603.548.8438/CELL Mike: 603.521.5560 K.Brown@timinc.com Kenneth Brown, Mike Barry	Riggs Contracting, Inc. (508) 473-2580 Steve.Gentilucci@riggs-co.com Congke li/Steve Gentilucci	R&R Window Contractors, Inc. (413) 527-7500 dlafosse@rrwindow.com David LaFosse
Amount in Estimate: \$ 1,827,800					
GMP dated 11.24.20					
6/A7.1.2 - Continuous trim 074200.19		Y	Y	Y	Y
7/A7.211 - Continuous trim 074200.19		Y	Y	Y	Y
6/A7.211 - Continuous trim 074200.19, section at modular skylight		Y	Y	Y	Y
Roof plans A2.6.1 through A2.6.3	3/A10.0.3 - Metal panel at roof ladders . Include Metal drip edge 074200.38, metal closure panel 074200.23, 16 Gaz Z girts 074200.39. Also include blocking for fastening the Lag bolt of the roof ladder. The metal panel insulation is shown as installed between layers of blocking	Y	Y	At metal panel wall only. Masonry wall by others . Interior blocking by others.	Y
Furnish & install expansion joint cover per detail 3/A6.1.4		Y	Y	Y	Y
Review the isometric view 2/A4.2.1 for the extent of metal panels shown in the following elevations		Y	Y	Y	Y
2/A4.3.6 - the corrugated metal panels continue beyond column line dF.		Y	Y	Y	Y
5/A4.3.9 - the corrugated metal panel continues beyond column line aaA		Y	Y	Y	Y
1/ A4.3.9		Y	Y	Y	Y
2.2 Roof Mounted Acoustic Barrier Screen wall . Reference roof drawings A2.6.1, A4.3.8, A4.3.9					
Basis of Design : Empire Acoustical Systems "Silent Screen" barrier panel		Y	Y	Empire Acoustical Systems	Y
Equal manufacturers include, but are <u>not limited</u> to the following: Kinetics Noise Control, Industrial Acoustics Company		State the MFR	One of the specified		
Panels 12 inches wide; 2-3/4 inch thick, 22-ga.		Y	Y	Y	Y
Galvanized perforated panel with 16 ga. galvanized steel non-perforated backing,		Y	Y	Y	Y
Color, finish : Exterior grade baked on powder coat paint system. Powder Coated, 500 Series, (Premium Grade) Two Sides . Color selection shall be from the EAS stock color chart. (Excluded Custom Color		Y	Y	Y	Y
Include powder coated corner/end post flashing		Y	Y	Y	Y
2" mineral rock wool insulation board (6 lb. density) sandwiched between the perforated front & non perforated backing.		Y	Y	Y	Y
Acoustic Performance		Y	Y	Y	Y
NRC: 1.05 (ASTM C423).		Y	Y	Y	Y
STC: 35 (ASTM E90)		Y	Y	Y	Y
Include all purlins and/or channels as required to support panels to structural steel (as sized and detailed on "S" drawings) . Structural Tubes and angles are excluded		Y	Y	Y	Y
17,17A/A6.3.1 per plan and details on A6.3.1		Y	Y	Y	Y
Detail 17A - Furnish & install J channels, wrap around brackets, end condition: continuous angles 074200.35 and outside corners. 074200.36 - metal and foam closure set in sealant at expansion joint		Y	Y	Y	Y
2.3 Metal-faced composite wall panels , labelled as 074200.42 on the drawing keynotes		Y	Y		
Composite panels between curtain-wall frames as shown on curtainwall details. These panels are not typically identified as metal panels on the elevations. (For e.g. details 7,8/A7.2.8 for CW 30 & 30A on A4.3.5, CW 40 & 40A on A4.3.6, CW 44 and 44A on A4.3.7). Excludes Glazed in Panels		Y	Y	Included composite panels under 074200 only. Composited Panels under 084410 by curtainwall subcontractor. Included panels as standard 3 coat fluoropolymer finish in lieu of 4 coat fluoropolymer. 4 coat finish is not available for composite panels.	Y
6,7/A7.2.9 Include metal faced composite wall panels at base of CW at CW35A		Y	Y		Y
RFI A68 - pending Detail 7/A7.2.9 indicates that the metal panel at the bottom is a "Dry Seal Gasket System". However detail 9/A7.2.8 look like a typical composite panel rain-screen. Gasketed systems are very uncommon. Scope shall include a rain screen composite metal panels as shown in detail 7/A7.29		Y	Y		Y
Panels shall be factory-formed and -assembled		Y	Y		Y
Include attachment system components and accessories required for weathertight system.		Y	Y		Y

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
Arlington High School			TJ McCartney, Inc. 603.548.8438/CELL Mike: 603.521.5560 K.Brown@timinc.com Kenneth Brown, Mike Barry	Riggs Contracting, Inc. (508) 473-2580 Steve.Gentilucci@riggs-co.com Congke li/Steve Gentilucci	R&R Window Contractors, Inc. (413) 527-7500 dlafosse@rrwindow.com David LaFosse
Amount in Estimate: \$ 1,827,800					
GMP dated 11.24.20					
Manufacturers: Subject to compliance with requirements, provide products by <u>one of the following:</u>					Y
Alucobond, Reynobond PI , Alcotex, Copper Sales Inc.; UNA-FAB Series 1000, Mitsubishi Chemical America, Inc.; Alpolic.		State the MFR	one of the specified MFR	Y	Alucobond or Aplic
Panel thickness 0.157 inch (4 mm)			Y	Y	Y
2.3D Finishes: 3-Coat Fluoropolymer, AAMA 621 (3 coat in lieu of the 4 coat system per Arthur's emal dated 01.21.21, RFI #178)			Y	Y	Y
Color: Field color to be selected from manufacturers standard stock colors, Alucobond "Classic Collection", or approved equal			Y	Y	Y
Color shall match the color selection provided for the Curtainwall Canopies under Section 084410			Y If it falls under a standard manufacture color as stated above. Custom color will be add.	Y	Assumed field color to be selected from manufacturers standard stock colors, Alucobond "Classic Collection", or approved equal. Customer color will have a premium due to small quantity.
Include attachment system components : perimeter extrusions, panel stiffeners, panel clips and anchor channels			Y	Y	Y
Include trim: STAINLESS STEEL FLASHING 074200.32 as shown in detail 8/A7.2.8			Y	Y	Y
Flashing at the head of the CW. Include Stainless steel flashing 074200.32			Y	Y	Y
2.5 Misc. materials				Y	
Fasteners			Y	Y	Y
2.5B and 3.3 B BITUMINOUS COATING - Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating		N	Includes dis metal seperation	N	Includes dis metal seperation
2.6 Wall panel accessories				Y	Y
Provide components required for a complete metal wall panel assembly including trim, copings, fasciae, mullions, sills, corner units, clips, gaskets, fillers, closure strips, and similar items.			Y	Y	As shown under 074200 section in the drawings.
2.7 Fabricate panels as specified			Y	Y	Y
Installation					Y
Install metal wall panels in orientation, sizes, and locations indicated on Drawings and to tolerances as specified in PART 3 - Execution of the specifications.			Y	Y	Y
3.7 Cleaning and Protection				Y	Y
3.7 A Remove temporary protective coverings and strippable films.			Y	Y	Y
3.7 A On completion of installation, clean finished surfaces			Y	Y	Y
Clear weep holes and drainage channels			Y	Y	Y
Replace metal wall panels that have been damaged by this trade			Y	Y	Y
Touch-up abraded finishes damaged by this trade			Y	Y	Y
074210 Wall Cladding Support System			Y	Y	Y
Furnish & install a non-combustible thermally-broken continuous insulation and cladding support system at exterior.			Y	Y	For areas under 074200 Metal Wall Panel and 074249 sintered stone wall cladding system only
2.1 Acceptable systems are <u>limited</u> to the following:					Y
1. Stand-Off PV Bracket by ExoTec Mfg. (stainless steel only), 2. (Basis of Design) KnightWall MFI-System. 3. Alpha VCI or HCl Sub-Framing System by ECO Cladding		State the MFR	Y KnightWall MFI-System	Y KnightWall MFI-System	Y
2.2 Accessories					

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
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Amount in Estimate: \$ 1,827,800					
GMP dated 11.24.20					
A. Corrosion-resistant fasteners as specified		Y	Y		Y
par 1.3.B Delegated design for wall cladding system		Y	Y		Y
Include r 074210.xx (composite framing support) for all materials labeled as 074200.xx (metal panel) or 074249.xx (sintered stone) on drawings		Y	Y		Y
WB1,WB2/A6.1.3 All framing, supports, trim and insulation outside of the vapor barrier		Y	Excludes AVB strip in over girt.	Y	Subfrmaing/mineral insulation/misc. trim outside of AVB under WB1,2 only. Excluded any trade bid or rough carpentry/stud framing/sheathing/AVB scopes.
Plan A2.2d, Section 1/A5.1.d. Wall and soffit at south entrance including <i>support system for Sintered stone only</i>		Y		Y	Y
Install wall panel support system in compliance with exterior wall panel orientation in locations as indicated on Drawings.		Y	For TJM scope only	y	
074249 Sintered Stone Wall Cladding System , WB2 panels					Y
WB1,2/A6.1.3 Furnish & install all framing, supports, trim and insulation outside of the vapor barrier.		Y		Y	Y
Work shall include but not be limited to the following:					Y
A 4.3.3. At north entrance above CW 01		Y		Y	Y
A 4.3.7 Sintered stone soffit (A3.5d) & wall for south entrance per 1/A5.1.d.1 (Frieze/reveal not included.)		Y		Y	Frieze/reveal not included. Carried as whole piece panels per section detail A5.1d.1
3/A7.2.9 - CW 08, 08A Sintered stone curtain wall infill panels (furnish only) to curtain-wall vendor where it is applied onto CW framing. Deliver to CW fabrication shop or jobsite at CW vendors option.		Y		Y	Y
Fabricate and <u>deliver</u> sintered stone for installation into curtain-wall frame		Y	Excludes unloading and moving furnish only panels. The Window sub is responsible for unloading	Y	Y
Included delivery to CW subcontractor's workshop?		Y		Y	Y
How many deliveries included?		Y	as required	Y	Y
Repair metal flashing and trim that is damaged as a result of work of this section, in accordance with Section 076200 – SHEET METAL FLASHING AND TRIM.		Y		Y	Y
Furnish panels with laser-cut letters to be installed under Section 044213 for the School sign		Y		Y	Y
par 1.3B Delegated design of sintered stone wall cladding system		Y		Y	Y
Manufacturers: Dekton, Lapitech, Neolith	State the MFR	Y	MFR: One of the specified	Y	Neolith
6 mm thick		Y	or 1/2". Lapitech does not advise using 6 mm in New England	Y	Y
Finish and Colors: Provide Neolith "Arena" with satin, or approved equal as selected by Architect from manufacturers full range		Y	Includes (1) standard manufactures color. Excludes Custom Colors.	Y	Y
2.3 Rainscreen support system and fabrication as specified.		Y		Y	Y
Provide manufactured aluminum and <u>stainless steel support system</u> and anchors/clips d		Y		Y	Y
2.4 Miscellaneous materials		Y		Y	Y
Fasteners, fixing clips, <i>exposed Trim IF INDICATED</i> . (Breakmetal flashing and trim not indicated)		Y		As recommended by manufacturer	Y
Factory fabricate and finish, field cutting of panels not permitted unless approved by the A/E		Y		Y	Y

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
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Amount in Estimate: \$ 1,827,800					
GMP dated 11.24.20					
Install in accordance with PART 3 - Execution of the specifications		Y	Y	Y	Y
3.6 On completion of system installation, clean finished surfaces as recommended by system manufacturer		Y Panels are installed clean. Final cleaning by others	Y		Y
057500 Decorative formed metal : Exterior column covers, (21) ea., Installation cost (furnished by Drywall sub)		S \$ (50,000)	S \$ (75,000)	C \$ (50,000)	
<u>Cost for the Installation of the Exterior column covers by Colony Drywall (the Drywall subcontractor)</u>		Colony Drywall \$ 30,000	Colony Drywall \$ 30,000	Colony Drywall \$ 30,000	
DESCOPE MEETING NOTES 01.20.21					
Scope includes work to be completed in Phases 1 through 3 as discussed and reviewed in the scope meeting.		Y	Y	Y	Y
Roof protection is needed when installing metal panels from the Roof.		Y	Y	Y	Y
Roof edge fascia and drip edge is not part of Metal panel scope.		Y	Y	Y	Y
Mockup : Provide sample installation of Lap seam metal panel ONLY (include Z girt framing, show joint work). In lieu of coil coated color get shop painted material to replicate the color as best as possible. Include as Standalone approx.. size 3' x 3'. Provide Sintered stone to CW sub for the CW Mockup with sintered stone infill. Unless US rep has panels in the USA to "take" not going to be available.		Y	Y	Y	Y
Provide project reference and product data sheet for the substitute MFR being proposed for the Lap seam panels.		Y	Y	Y	Y
(3) coat fluoropolymer, both sides for the lap seam panels to be clarified by HMFH. Include price.		Y	Y	Y	Y
3/A10.0.3 – Include blocking and plywood for all Roof ladder locations.		Y	Y	Y	Y
Extent of Metal panel beyond the column line dF as shown in elevation 2/A4.3.6 and in the isometric view on 3/A4.2.2 shall be as clarified by HMFH RFI-178		Y	Y	Y	Y
Requirement for (4) coat fluoropolymer finish for the composite panels will be confirmed by HMFH. Base Bid to stay as (3) coat. FI-178.		Y	Y	Y	Y
Staggered joints at Sintered stone ceiling/soffit. No frieze/reveal required.		Y	Y	Y	Y
Provide add alternate to install the Sintered stone panel with the laser cut signs on the granite panel (both sides)		S \$ 3,000	S \$ 4,200	O \$ 3,000	
Sintered panels, provide Extra materials as specified - 5% of each size installed on the Bldg. (including CW infill panel)		Y	Y	Y	
Sintered Stone panels comes from overseas. In order to maintain uniformity in color and appearance consider buying all the materials for Phase 1 through 3 and storing it. Buy additional material to account for damage/field waste.		Y	Y	Y	
QUANTITIES					
Manhours					
Exposed-Fastener, Lap-Seam Metal Wall Panels (corrugated)		14,197 sf	12,300sf	14,171 sf	
Acoustic Barrier Wall Panels (roof mounted)		3,650 sf	3,550sf	3,586 sf	
Composite Metal Wall Panels		1,006 sf	650sf	1,378 sf	
Sintered Stone Wall Cladding System		1,896 sf	1,750sf	1,724 sf	
Sintered Stone Wall Cladding to be furnished to CW sub		1,520 sf	1,300sf	y	
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS					
Provide M/WBE subcontractor participation		N	N		Excluded
Workforce utilization - 15.3% minority worker, 6.9% female worker		Y best effort	Y Best Efforts to be made		Excluded
Roof protection		y Plywood protection only	y Plywood protection only	y	Plywood protection only
While school is in session, all deliveries must be between the hours of 8:30am – 2:30pm, and after 3:30pm (coordinate with Consigli).		Y	Y	y	

Siding - Metal Panels & Sintered Stone		Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
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Amount in Estimate: \$ 1,827,800					
GMP dated 11.24.20					
Prevailing Wage per specifications		Y	Y	Y	Y
Labor Affiliations - indicate your affiliations.		Y	Union Carpenters	Y	Union Carpenters
Union Carpenters and Laborers as applicable.		Y	Y	Y	Y
Layout from control provided by GC.		Y	Y	Y	Y
Includes all field measurements as required.		Y	Provided schedule allows	Y	Y
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.		Y	Y	Y	Y
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.		Y	Y	Y	Y
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.		Y	Y	Y	Y
6'0" fall protection.		Y	Y	Y	Y
Inclusion of all materials & labor price increases for the duration of the project.		Y	Y	Y	Y
Inclusion of any and all tariffs in place, and known about, as applicable, at the time of a signed contract agreement.		Y	N	N	N
Includes LEED requirements as specified.		Y	Y	Y	Y
Includes background checks as required		Y	Y	Y	Y
All offsite storage costs required for the completion of work of this trade.		Y	Y	Y	Y
Complete work of this trade as shown on all contract documents including A's, S's, MEP's, etc.		Y	Y	Y	Y
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.		Y in accordance with policy at start of project only	Y	Y	Y
EXCLUSIONS					
Section 079200 – JOINT SEALANTS (for work associated with this trade)		Y	Y	Y	Y
Section 074200, paragraph 1.2, A, 5: Roof edge fascia (DETAILS SHOW Sheet metal Fascia w/drip edge BY 076200.45 Roofer. e.g. elev 2/A4.3.3)		Y	Y 9/A6.1.3 shows Sheet metal Fascia w/drip edge by 076200.45 (roofer)	Y	Y
Excludes Metal composite panels at the head details of CW in 7/A7.2.9 - drawing shows wet seal system by 084410. (CW TRADE)		Y	Y	Y	Y
Excludes wet sealed system for metal composite panels		Y no wet seal, dry joint rain screen only	Y Dry-joint only. Wet seal system under CW scope	Y	Y
Excludes composite framing support at Crawl Space support A5.1.d.4 : TAG 074210 (by drywall)		Y Interior panel is excluded. Not enough information for detail	Y	Y	Y
Frieze /reveal as noted on 7/A 4.3.7 (Ok per HMFH)		Y	Y	Y	Y
Flashing and trim Sintered stone. (Open Joints shown in details. Flashing by 076200 at CW location (6/A7.2.8)		Y	Y Open Joint. Flashing by 076200 at CW location (6/A7.2.8)	Y	Y
Sales tax		Y	Y	Y	Y
A2.2d 2 /A5.1.d.1 - Detail 6/A7.2.8 section 057500.01 decorative formed metal/Aluminum beam cover assembly in the Lobby at the South entrance (by Drywall)		Y	Y	Y	Y
Furnishing of column covers (Drywall Sub)		Y	Y	Y	Y
furnish and/or installation of 076200.36 & Flat seam metal siding, 076200.34, Metal drip edge, 076200.43, Sheet metal closure, & 076200.46, Sheet metal flashing (roofer)		Y	Y	Y	Y
Aluminum backing panel behind furnished only sintered stone panels within the CW. (Ref. 3/A7.2.9) (CW sub).		Y	Y	Y	Y
Furnish and/or installation of custom tree column cover. (Ref. 101400.06/A4.3.4). By Signage		Y	Y	Y	Y
Soffits and canopy work with the exception of Sintered Stone at the South Entry		Y	Y	Y	Y
Exterior Louvers and Vents		Y	Y	Y	Y

Siding - Metal Panels & Sintered Stone	Total:	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000
Arlington High School		TJ McCartney, Inc. 603.548.8438/CELL Mike: 603.521.5560 K.Brown@timinc.com Kenneth Brown, Mike Barry	Riggs Contracting, Inc. (508) 473-2580 Steve.Gentilucci@riggs-co.com Congke li/Steve Gentilucci	R&R Window Contractors, Inc. (413) 527-7500 dlafosse@rrwindow.com David LaFosse
Amount in Estimate: \$ 1,827,800				
GMP dated 11.24.20				
Metal Faced Composite Wall Panels under 084410		Y	Y	Y
072100 Thermal Insulation/074210 Wall Cladding Support System outside of panel/cladding scope (E.g. Direct Applied Finish System, Crawl Spaces)		Y	Y	Y
Primary Structural Steel Framing for Acoustic Screen Panel		Y	Y	Y
Metal copings/ Cleat/Roof-edge flashings/counterflashing/thru wall flashing		Y	Y	Y
<u>Exterior column covers - Installation cost</u>		Y	Y	Y
Snow and ice removal		Y	Y	Y
Provisions for off-hour work as required.		Y	Y	Y
Bituminous coating but will include appropriate separation material between di-similar surface to prevent galvanic action		Y	Y	Y
SCHEDULE REQUIREMENTS				
Lead Times				
Samples	WKS	2-4 wks.	2-3 wks.	2-3 wks.
Submittals	WKS	4-5 weeks	3-4wks	3-4wks
Materials (from approval)	WKS	10-12 wks.	8-12 wks.	8-12 wks.
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS				
PREQUALIFICATION STATUS				
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE	Total:	\$ 1,471,000	\$ 1,547,200	\$ 1,897,000
Mock up if it is larger than 3' x 3'	1 LS \$ 10,000	c \$ 10,000	c \$ 10,000	c \$ 10,000
Custom Color to match the color selection provided for the Curtainwall Canopies under Section 084410	1 LS \$ 15,000	c \$ 15,000	c \$ 15,000	c \$ 15,000
Additional ROOF PROTECTION required during the installation of Metal Panel work (Phases 1, 2, 3)	1 LS \$ 60,000	c \$ 60,000	c \$ 60,000	c \$ 60,000
Snow & ice removal	1 LS \$ 25,000	c \$ 25,000	c \$ 25,000	c \$ 25,000
Support for installation of exterior column covers	1 LS \$ 20,000	c \$ 20,000	c \$ 20,000	c \$ 20,000
Holds/Allowances Total:	\$ 130,000	\$ 1,601,000	\$ 1,677,200	\$ 2,027,000



CONSIGLI

Est. 1905

February 23, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 34 – Wood Flooring

Dear Jim,

We have completed our review of the proposals for the **Wood Flooring** work and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Kenvo Floor Co. Inc.**, in the amount of **\$405,430**. Please find a summary of the award below. We request that an additional sum of **\$25,000**, be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Wood Flooring	
GMP estimate dated 11.24.20	\$497,000
Subcontract award value	\$405,430
Holds included outside the Subcontractor's award value	
Floor protection - Gym, Performing arts	\$25,000
Total award value for Wood Flooring	\$430,430
Savings against the GMP budget	\$66,570

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Wood Flooring		Total:	\$ 430,430	\$ 462,000	\$ 462,500	\$ 477,400	\$ 477,660
Arlington High School	Amount in Estimate: \$ 497,000		Kenvo Floor Co Inc (401) 294-1244 estimator@kenvofloor.com	Maru Cardona	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com	Kiefer Northeast LLC (224) 643-7642 rob@kieferne.com	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net
CONTRACT DOCUMENTS			Mike DiNatale	Rob Belkner	Jared Colombo	Jerry Curran	J.J. Curran & Son, Inc. (518) 434-8110 estimate@jjcuranfloors.com
Drawings prepared by: HMFH Architects dated October 7, 2020		Y	Y	Y	Y	Y	Y
Specifications prepared by: HMFH Architects dated 10/7/20 including:		Y	Y	Y	Y	Y	Y
Section 007225 - CM's Supplemental Instructions dated 10/07/20		Y	Y	Y	N	Y	
Section 096400 - Stage Wood Flooring		Y	Y	Y	Y	Y	Y
Section 096466 - Wood Athletic Flooring		Y	Y	Y	Y	Y	Y
Addenda prepared by: HMFH Architects							
Addendum 01, dated 10/16/20		Y	Y	Y	Y	Y	Y
Addendum 02, dated 10/23/20		Y	Y	Y	Y	Y	Y
Addendum 03, dated 10/28/20		Y	Y	Y	N	Y	
Addendum 04, dated 11/2/20		Y	Y	Y	N	Y	
Addendum 05, dated 11/5/20		Y	Y	Y	N	Y	
Addendum 06, dated 11/6/20		Y	Y	Y	N	Y	
Compliance with all Division 0 and 1 specifications as applicable.		Y	Y	Y	N	Y	
Compliance with Owner's contract (spec 005223)		Y	Y	Y	Y	Y	Y
Compliance with Consigli contract		Y	Y	Y	Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:		Y	Y	Y	Y	Y	Y
Section B - Quality Plan		Y	Y	Y	Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)		Y	Y	Y	Y	Y	NA
Section E - Project Safety Requirements		Y	Y	Y	Y	Y	Y
Section F - Lean Requirements		Y	Y	Y	Y	Y	Y
Section G - Logistics/CMP Plan		Y	Y	Y	Y	Y	Y
Section H - Schedule		Y	Y	Y	Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan		Y	Y	Y	Y	Y	Y
RFI Log dated 11/02/2020		Y	Y	Y	N		
SCOPE OF WORK			\$ 405,430	\$ 437,000	\$ 437,500	\$ 450,900	\$ 452,660
General							
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.		Y	Y	Y	Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.		Y	Y	Y	Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.		Y	Y	Y	Y	Y	Y
Refer to Floor Pattern plans A2.9.0 thru A2.9.5		Y	Y	Y	Y	Y	Y
Reference Master Finish Schedule on A2.0							
Floor Preparation							
Includes final broom sweep of floors to receive finished product.		Y	Y	Y	Y	Y	Y
Includes minor skim coat patching for small imperfections in the sub base		Y	Y	Y	Y	Y	
096400 Stage Wood Flooring (Year 2021)				v = \$76,000			
Furnish and install stage wood flooring systems as shown by one of the following manufacturers (please specify): Acer Sports Flooring; Action Floor Systems; Horner Flooring Co; or Robbins Sports Surfaces	sf	Y Acer Sports Flooring	Y Action	N Custom Installation	Y	Y	Y
Floor type C4 per the Master Finish Schedule including rooms #236, 244		Y	Y	Y	Y	Y	Y
2/A87.6 : Pads, sleepers, (3) layers of plywood & 1/4" hardboard on top		Y	Y	Y	Y	Y	Y
Includes mineral wool insulation to fill all cavities in wood flooring assembly		Y	Y	Y	Y	Y	Y
Includes 10'x10' mockups		Y	Y	Y	Y	Y	Y

Wood Flooring		Total:	\$ 430,430	\$ 462,000	\$ 462,500	\$ 477,400	\$ 477,660
Arlington High School	Amount in Estimate: \$ 497,000		Kenvo Floor Co Inc (401) 294-1244 estimator@kenvofloor.com Maru Cardona	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale	Kiefer Northeast LLC (224) 643-7642 rob@kieferne.com Rob Belkner	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	J.J. Curran & Son, Inc. (518) 434-8110 estimate@jjcurranfloors.com Jerry Curran
Includes 1/4" high metal saddle thresholds by one of the following manufacturers (please specify): National Guard Products; Pemko; or Zero International Refer to Door Schedule and floor plans for widths			Y Pemko	Y Pemko	Y Pemko	Y	N excluded
Includes ADA metal saddle threshold at Auditorium			Y	Y	Y	Y	N excluded
Includes adhesives, fasteners, etc. as required for complete installation			Y	Y	Y	Y	Y
096466 Wood Athletic Flooring (Year 2024)				v = \$361,000			
Furnish and install wood athletic flooring systems as shown by one of the following manufacturers (please specify): Acer: AcerChannel VLP with 3/4" Black 60D Tri-power pads.; Connor Sports; or Robbins Sports Surfaces	sf	Y Acer Floor or Connors	N Action Floor Systems	Y	Y	Y	Y
ROOM #245.		Y	Y	Y	Y	Y	Y
Includes mineral wool insulation to fill all cavities in wood flooring assembly		Y	Y	Y	Y	Y	N
Includes 10'x10' mockups		Y	Y	Y	Y	Y	Y
1.9 Includes 3 year maintenance contract per specification 096466-4		S V= \$10,000		Y	Y	Y	Y
2 1/8" thick maple finished floor with EPDM resilient pads		Y	Y	Y	Y	Y	Y 2"
Includes 1/4" high metal saddle thresholds by one of the following manufacturers (please specify): National Guard Products; Pemko; or Zero International		Y	Y Pemko	Y Pemko	Y	Y	N excluded
Includes brass cover plates as specified in 116620 per specification 096466-6		Y	Y	Y	Y		N by others
Furnish and install floor finish system by Bona Sport Sport Poly 350 or MFMA approved equal (please specify which you are including)		Y	Y Bona	Y Bona	Y		N does not meet lead; carrying waterbased Trophy H2O finish
Furnish and install all vented cove bases per drawings (including at areas scheduled to receive resilient athletic flooring)	If	Y	Y	Y	Y	Y	Y/N excl at resil.
Include wood flooring adhesive, fasteners, thresholds, saddles, cork expansion strip, padding (glued or loose) etc. as required for complete installation. Plywood underlayment and wood sleepers included as applicable.		Y	Y	Y	Y	Y	Y thresholds excl
A2.7C; RFI A35	Install volleyball inserts in furnished by athletic equipment subcontractor		Y	Y	Y	C \$ 1,500	Y
Miscellaneous							
Refer to Floor Pattern plans A2.9.0 thru A2.9.5		Y	Y	Y	Y	Y	Y
Includes mineral wool insulation to fill all cavities in wood flooring assembly		Y	Y	Y	Y	Y	Y Stage only
<u>Mockups as required and specified</u>		Y	Y	Y	Y	Y	Y
Clean up to central location		Y	Y	Y	Y	Y	Y
All miscellaneous materials as required to complete scope		Y	Y	Y	Y	Y	Y
Transition strip & other accessories as required/specified		Y	Y	Y	Y	Y	N
Includes all attic stock as specified		Y	Y	Y	Y	Y	NA
QUANTITIES							
Manhours			1232 mh	1,600 MH	1,325mh	pending	1,056mh
stage floor			5940 SF	5400 sf	5450 SF	pending	pending
gym flooring			16,800 sf	16,215 sf	16,300 SF	pending	pending
BREAKOUT VALUES (\$\$ - included in values above)							
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS							
Includes all submittals, shop drawings, warranties, etc. as specified and required.			Y	Y	Y	Y	Y
Prevailing Wage per specifications			Y	Y	Y	Y	Y
Labor Affiliations - indicate your affiliations.		Y LOCAL 2168 Floor Coverer	Y 2168 Floor Coverer	Y 2168 Floor Coverer	Y 2168 Floor Coverer	Y 2168 Floor Coverer	Y 2168 Floor Coverer
Union Carpenters and Laborers as applicable.		Y	Y	Y	Y	Y	Y
Layout from control provided by GC.		Y	Y	Y	Y	Y	Y
Includes all field measurements as required.		Y	Y	Y	Y	Y	Y

Wood Flooring	Total:	\$ 430,430	\$ 462,000	\$ 462,500	\$ 477,400	\$ 477,660
Arlington High School		Kenvo Floor Co Inc (401) 294-1244 estimator@kenvofloor.com Maru Cardona	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale	Kiefer Northeast LLC (224) 643-7642 rob@kieferne.com Rob Belkner	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	J.J. Curran & Son, Inc. (518) 434-8110 estimate@jjcurranfloors.com Jerry Curran
Amount in Estimate: \$ 497,000						
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.		Y	Y	Y	Y	Y
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.		Y	Y	Y	Y	Y
Provisions for off-hour work as required.		N	Y	Y	Y	N
Inclusion of all materials & labor price increases for the duration of the project.		Y	Y	Y	Y	Y
Includes LEED requirements as specified.		Y	Y	Y	Y	Y
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.		Y	Y	Y	Y	Y
EXCLUSIONS						
Tile		Y	Y	Y	Y	Y
Rooms excluded ALT PE # 126 is Interlocking rubber tiles, PE GYM 246, Special ED ALT PE is Resilient Athletic flooring		Y	Y	Y	Y	Y
Resilient flooring (IFT, RF & RF-S)		Y	Y	Y	Y	Y
Resilient Athletic Flooring (RAF-1, RAF-2)		Y	Y	Y	Y	Y
Terrazzo (TZOO)		Y	Y	Y	Y	Y
Polished concrete (AFC)		Y	Y	Y	Y	Y
Items noted as EBP3 per sheets A1.1.1 thru A1.1.4		Y	Y	Y	Y	Y
SCHEDULE REQUIREMENTS						
Lead Times						
Samples	WKS	2 weeks	2 weeks	2 weeks	2 weeks	2 weeks
Submittals	WKS	4 weeks	4 weeks	4 weeks	4 weeks	4 weeks
Materials (from approval)	WKS	4 - 8 weeks	12 weeks	4 weeks	4 - 8 weeks	8 weeks
Duration to complete		8-10 weeks	8-10 weeks	Y	Y	Y
Provisions for phasing as required		Y	Y	Y	Y	Y
Includes all mobilizations as required		Y	Y	Y	Y	Y
Prequalification						
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS						
	Subcontractor Total:	\$ 405,430	\$ 437,000	\$ 437,500	\$ 452,400	\$ 452,660
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE						
HOLD Floor protection - Gym, Performing arts	1 LS	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
	Holds/Allowances Total:	\$ 25,000	\$ 430,430	\$ 462,000	\$ 462,500	\$ 477,400
UNIT PRICES						



CONSIGLI

Est. 1905

February 23, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
Consigli Job #2153
GMP
Owner Approval Letter No. 35 – Carpet & Entrance Mats

Dear Jim,

We have completed our review of the proposals for the **Carpet & Entrance Mats** and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Ayotte & King for Tile, Inc.**, in the amount of **\$345,100**. Please find a summary of the award below. We request that an additional sum of **\$27,000**, be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Carpet & Entrance Mats	
GMP estimate dated 11.24.20	\$383,075
Subcontract award value	\$345,100
Holds included outside the Subcontractor's award value	
Floor protection	\$27,000
Total award value for Carpet & Entrance Mats work	\$372,100
Savings against the GMP budget	\$10,975

The award value for the Subcontractor includes 100% WBE participation.

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Carpet & Entrance Mats		Subguard:	3295 - P/P/P/5.3M	32806 - P*/P/5.0M	6534 - F/P/P/3.0M	33162 - P/P/P/18.8M	3451 - F/P/P/5.3M	3302 - P/P/P/3.6M	3327 - P/P/P/10.0M
		Total:	\$ 372,100	\$ 390,300	\$ 394,600	\$ 405,147	\$ 432,467	\$ 438,748	\$ 439,900
Arlington High School	Amount in Estimate: \$ 383,075		Ayotte & King For Tile, Inc. (413) 532-9463 DavidKing@ayotteandking.com David King	Capital Carpet & Flooring Specialists, Inc. (781) 389-6550 taureenc@capitalcarpetonline.com Wes Hardy	JC Floorcovering Co., Inc. 978.375.4873 jared@jcfcfloors.net Jared Colombo	Allegheny Contract Flooring Inc (781) 497-2814 pstgelais@alleghenycontract.com Peter St. Gelais	Business Interiors Floor Covering (781) 938-9994 paulferraro@bifloor.com Paul Ferraro	Circle Floors, Inc. (617) 381-6600 lificaro@circlefloors.com Lenny Ficaro	Pavilion Floors, Inc. (781) 933-8500 mtaveira@pavilionfloors.com Mike Taveira
CONTRACT DOCUMENTS									
AUDUUS - item #7	Drawings prepared by: HMFH Architects dated October 7, 2020		Y	Y	Y	Y	Y	Y	Y
	Specifications prepared by: HMFH Architects dated 10/7/20 including:		Y	Y	Y	Y	Y	Y	Y
	Section 007225 - CM's Supplemental Instructions dated 10/07/20		Y	Y	N	Y	Y	Y	Y
	Section 018110, SUSTAINABLE DESIGN REQUIREMENTS		Y	Y	Y	Y	Y	Y	Y
	Section 090160 - Vapor Mitigation at Slabs		Y	N	Y	Y	Y	Y	Y
	Section 096820 - Carpeting		Y	Y	Y	Y	Y	Y	Y
	Section 124810 - Entrance Floor Mats and Frames		Y	Y	Y	Y	Y	Y	Y
Addenda prepared by: HMFH Architects									
Addendum 01, dated 10/16/20	Addendum 01, dated 10/16/20		Y	Y	Y	Y	Y	Y	Y
	Addendum 02, dated 10/23/20		Y	Y	Y	Y	Y	Y	Y
	Addendum 03, dated 10/28/20		Y	Y	N	Y	Y	Y	Y
	Addendum 04, dated 11/2/20		Y	Y	N	Y	Y	Y	Y
	Addendum 05, dated 11/5/20		Y	Y	N	Y	Y	Y	Y
	Addendum 06, dated 11/6/20		Y	Y	N	Y	Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.									
Compliance with Owner's contract (spec 005223)									
Compliance with Consigli contract									
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:									
Section B - Quality Plan									
Section C - 3D Coordination Specification (as applicable to this trade)									
Section E - Project Safety Requirements									
Section F - Lean Requirements									
Section G - Logistics/CMP Plan									
Section H - Schedule									
Section O - COVID-19 Site Specific Safety Plan									
RFI Log dated 11/02/2020									
SCOPE OF WORK			see below	see below	see below	see below	see below	\$ 385,467	see below
General									see below
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.			Y	Y	Y	Y	Y		Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.			Y	Y	Y	Y	Y		Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.			Y	Y	Y	Y	Y		Y
090160	Vapor Mitigation at Slabs (partial)		S \$ 114,000	O \$ 114,000	S \$ 161,000	S \$ 114,800	Y	S \$ 165,888	S \$ 150,000
	Vapor mitigation at areas receiving carpet and entrance mats		sf	Y	W/above	Y	Y	Y	Y
by one of the following manufacturers (please specify): Ardex Engineered Cements - Ardex MC Rapid; Koester American Corp - Koster VAP 1 2000 System; or approved equal			Y Ardex	W/above	Y Koester	Y Ardex	Y Ardex	Y Ardex	Y Ardex
Includes special warranty of 10 years from date of Substantial Completion			Y	W/above	Y	N 1 YEAR ONLY		N mfg. decision	
If additional floor prep is required in addition to vapor mitigation it will be done as part of this lump sum cost. So long as flooring is within tolerances of the concrete specification there will be no additional compensation for floor prep			Y	W/above	N	S \$ 65,350	C \$ 15,000	C \$ 15,000	Y
ADD03.2.3	Moisture mitigation under carpet			W/above	Y	Y	Y	Y	Y
	Provide manufacturer's standard system, consisting of one to three coats, applied to a properly prepared concrete surface.			W/above	Y	Y	Y	Y	Y
The water vapor reduction system shall be required to reduce vapor emissions by a minimum of 90% after final cure.			W/above	Y	Y	Y	Y	Y	Y
Provide compatible crack filler for cracks in excess of 1/32 inch			W/above	Y	Y	Y	Y	Y	Y
2.4 B	Mix Designs			W/above	Y	Y	Y	Y	Y
	Mix Ratio: Mix Component A and B at a ratio of 2.4:1 by volume.			W/above	Y	Y	Y	Y	Y
Examine substrate and perform Moisture, RH, adhesion Test as specified			W/above	Y	Y	Y	Y	Y	Y
3.2	Manufacturer's representative shall inspect surfaces with regard to their suitability to receive moisture vapor reduction system			W/above	Y	Y	Y	Y	Y
	Clean all surfaces to receive moisture vapor reduction system as recommended by manufacturer. Shot blast floors and clean surfaces with vacuum to remove residue off the substrate. Repair cracks, expansion joint, control joints, and open surface honeycombs and fill in accordance with manufacturer's recommendations. Acid etching will not be accepted.			W/above	Y	Y	Y	Y	Y
3.2B				W/above	Y	Y	Y	Y	Y
				W/above	Y	Y	Y	Y	Y
096820	Carpeting		S \$ 167,800	S \$ 184,300	S \$ 145,600	S \$ 170,828	W/ABOVE	S \$ 155,613	S \$ 262,900
	Carpet tile as shown by one of the following manufacturers (please specify): Milliken & Co; Shaw Contract Group; or Mohawk Group		sy	Y Shaw	Y Shaw	Y Milliken	Y Shaw	Y Shaw	Y
Reference the Finish Schedule on Drawing A2.0. Provide carpet in Assembly spaces - room key B5 & B7.			Y	Y	Y	Y	Y	Y	Y
Provide Carpet in classrooms - room key C3, Provide Carpet in offices/Conference/Faculty rooms - room key - D2.									

Carpet & Entrance Mats		Total:	\$ 372,100	\$ 390,300	\$ 394,600	\$ 405,147	\$ 432,467	\$ 438,748	\$ 439,900
Arlington High School			Ayotte & King For Tile, Inc. (413) 532-9463 DavidKing@ayotteandking.com David King	Capital Carpet & Flooring Specialists, Inc. (781) 389-6550 naureenc@capitalcarpetonline.com Wes Hardy	JC Floorcovering Co., Inc. 978.375.4873 jared@jcfloors.net Jared Colombo	Allegheny Contract Flooring Inc (781) 497-2814 pstgelais@alleghenycontract.com Peter St. Gelais	Business Interiors Floor Covering (781) 938-9994 paulferraro@tifloor.com Paul Ferraro	Circle Floors, Inc. (617) 381-6600 ficaro@circlefloors.com Lenny Ficaro	Pavilion Floors, Inc. (781) 933-8500 mtaveira@pavilionfloors.com Mike Taveira
Amount in Estimate: \$ 383,075			S \$ 28,000	O \$ 28,000	O \$ 28,000	S \$ 27,169	Y	O \$ 28,000	Y = \$26,700
PROVIDE Carpet in TEMP LIBRARY - A1.2.9, approx 800 SY (W/waste)			Mohawk - Moss Moderne						
MR used for TEMP Library space (Summer 2021)									
2.2 Basis of Design: Shaw Contract Group; Living Systems Collection.			Y	Y	N Milliken	Y	Y	Y	Y
Color & Style: Provide custom patterns of up to <u>two different carpet colors</u> from each carpet style for each room as selected by Architect from manufacturer's full range.			Y	Y	N Live circuit (one color)	Y	Y	Y	Y
Broadloom carpet as shown by one of the following manufacturers (please specify): Mannington; Mohawk Group; Shaw Industries Group; or Tarkett		sy	Y Shaw	Y Shaw	Y Mohawk	Y Shaw	Y Shaw	Y Shaw	Y
Basis of Design Shaw Industries Group, Inc; Off the Grid Collection.			Y	Y	N Using Mohawk		Y	Y	Y
Colors and Styles: Two styles with one color and one style per room.			Y	Y	Y		Y	Y	Y
Width: 6 feet			Y	Y	Y		Y	Y	Y
Color and Style: As selected by Architect from manufacturers full range of products that comply with specified requirements.			Y	Y	Y		Y	Y	Y
Includes 25 year manufacturer warranty			Y	Y	Per Manufacturer's standard warranty	N	Y	N mfg. decision	Y
2.4 Substrate preparation for carpet flooring and accessories.			Y	Y	Y		Y	Y	Y
Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and carpet manufacturer's written installation instructions for preparing substrates indicated to receive carpet installation.			Y	Y	Y		Y	Y	Y
3.2A Includes all adhesives, seams, nail strips, floor transitions, etc. as required for complete installation			Y	Y	Y	Y	Y	Y	Y
Includes patterned carpet layouts if required			Y	Y	N need layout drwg	Y	Y	N need layout drwg	Y border work nic
Includes horizontal and vertical surfaces at Auditorium, except beneath seating and in Debate and Discourse Lab (Room 434)			Y	Y	Y	Y	Y	Y	Y
Coordinate installation in rooms scheduled to receive both demountable partitions and carpeting with demountable partitions subcontractor			Y	Y	Y	Y	Y	Y	Y
note h/A2.0 at auditorium fixed seating, provide carpeted aisles			Y	Y	Y	Y	Y	Y	Y
1.9 EXTRA MATERIALS			Y	Y	Y	Y	C \$ 5,000	S \$ 5,814	Y
Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).			Y	Y	Y	Y	Y	Y	Y
Tufted Carpet: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m.).			Y	Y	Y	Y	Y	Y	Y
3.1 Examine substrates			Y	C \$ 1,500	C \$ 1,500	Y	Y	Y	Y
Perform Alkalinity and Adhesion Testing			Y	Y	Y	Y	Y	Y	Y
Perform relative humidity test			Y	Y	Y	Y	Y	Y	Y
3.1 of Section 090160 Perform adhesion test			Y	Y	Y	Y	Y	Y	Y
3.3 of Section 090160 Apply moisture mitigation system in accordance with manufacturers requirements and in thickness as required to achieve relative humidity tolerances as specified in Section 096500 - RESILIENT FLOORING, Section 124810 - ENTRANCE FLOOR MATS AND FRAMES, and Section 096820 - CARPETING.			Y	Y	Y	Y	Y	Y	Y
3.1D Proceed with installation only after moisture levels in concrete slab are acceptable to flooring manufacturer. Install moisture mitigation to achieve required levels			Y	Y	Y	Y	Y	Y	Y
Install in accordance with Part 3 - Execution of the specifications			Y	Y	Y	Y	Y	Y	Y
124810 Entrance Floor Mats and Frames			S \$ 35,300	S \$ 35,500	S \$ 31,500	Y w/above. V = \$35,837	Y	S \$ 41,433	Y w/above
Zone 2 entrance floor mats and frames as shown by one of the following manufacturers (please specify): Forbo - Coral Duo; Mats, Inc - Legacy Nop; or Milliken - Obex Forma			Y Mats Inc	Y	Y Mats Inc	Y Forbo	Y Mats Inc.	Y Forbo	Y
Zone 3 entrance floor mats and frames as shown by one of the following manufacturers (please specify): Forbo - Coral Brush, tile; Mats, Inc - Supreme Nop; or Milliken - Obex Quadrus			Y Mats inc.	Y	Y Mats inc.	Y Forbo	Y Mats Inc.	Y Forbo	Y
2.2 Substrate preparation for entrance mats and accessories.			Y	Y	Y	Y	Y	Y	Y
Entrance Mats IN ACCORDANCE WITH PARAGRAPH 2.1			Y	Y	Y	Y	Y	Y	Y
Color and Pattern: As selected by Architect from manufacturer's full range.			Y	Y	Y	Y	Y	Y	Y
Metal Edging: Provide Schluter edge metals, or approved equal as selected by Architect where indicated			Y	Y	Y	Y	Y	Y	Y
Install entrance mats to comply with manufacturer's written instructions. Set mat tops at height recommended by manufacturer for most effective cleaning action; coordinate top of mat surfaces with bottom of doors that swing across mats to provide clearance between door and mat.			Y	Y	Y	Y	Y	Y	Y
all floor transitions, adhesives, fasteners, trim, etc. as required for complete installation			Y	Y	Y	Y	Y	Y	Y
Miscellaneous									
Refer to Floor Pattern plans A2.9.0 thru A2.9.5			Y	Y	N	Y	Y	Y	Y
Includes final broom sweep of floors to receive finished product.			Y	Y	Y	Y	Y	Y	Y
Mockups as required and specified			Y	Y	N	Y	Y	N	Y
Clean up to central location			Y	Y	Y	Y	Y	Y	Y
All miscellaneous materials as required to complete scope			Y	Y	Y	Y	Y	Y	Y
Transition strip & other accessories as required/specified			Y	Y	Y	Y	Y	N	Y
QUANTITIES									
Manhours			544 mh	400 mh	pending	384 mh	pending	1,136mh	1,280 mh
Carpet tile			3011 SY	3050 sy	3,085 sy	2420 SY	2,945 sy	pending	3,490 sy
Carpet broadloom			990 SY	1400 sy	w/above	640 SY	910 sy	pending	680 sy
Entry mats EM2			2080 sf	3500 sf	3,800 sf	2025 SF	2,055 sf	pending	2000 sf
Entry mats EM3			1500 sf		w/above	1345 SF	1,460 sf	pending	1450 sf
BREAKOUT VALUES (\$\$ - included in values above)									

Carpet & Entrance Mats	Total:	\$ 372,100	\$ 390,300	\$ 394,600	\$ 405,147	\$ 432,467	\$ 438,748	\$ 439,900
Arlington High School		Ayotte & King For Tile, Inc. (413) 532-9463 DavidKing@ayotteandking.com	Capital Carpet & Flooring Specialists, Inc. (781) 389-6550 naureenc@capitalcarpetonline.com	JC Floorcovering Co., Inc. 978.375.4873 jared@jcfloors.net	Allegheny Contract Flooring Inc (781) 497-2814 pstgelais@alleghenycontract.com	Business Interiors Floor Covering (781) 938-9994 paulferraro@bifloor.com	Circle Floors, Inc. (617) 381-6600 lificaro@circlefloors.com	Pavilion Floors, Inc. (781) 933-8500 mtaveira@pavilionfloors.com
Amount in Estimate: \$ 383,075	David King	Wes Hardy	Jared Colombo	Peter St. Gelais	Paul Ferraro	Lenny Ficaro		Mike Taveira
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS								
Prevailing Wage per specifications	Y	Y	Y	Y	Y	Y	N	Y
Union Carpenters	Y	Y	Y	Y	Y	Y	Y	Y
Layout from control provided by GC.	Y	Y	Y	Y	Y	Y	Y	Y
Includes all field measurements as required.	Y	Y	Y	Y	Y	Y	Y	Y
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.	Y	Y	Y	Y	Y	Y	N	Y
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.	Y	Y	Y	Y	Y	Y	Y	Y
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.	Y	Y	Y	Y	Y	Y	Y	Y
Inclusion of all materials & labor price increases for the duration of the project.	Y	Y	Y	Y	Y	Y	N	Y
Inclusion of any and all tariffs in place, and known about, as applicable, at the time of a signed contract agreement.	Y	Y	Y	Y	Y	Y	N	Y
Includes LEED requirements as specified.	Y	Y	Y	Y	Y	Y	Y	Y
All offsite storage costs required for the completion of work of this trade.	Y	Y	Y	Y	Y	Y	Y	Y
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.	Y	Y	Y	Y	Y	Y	Y	Y
All requisitions are to be done on Textura software.	Y	Y	Y	Y	Y	Y	Y	Y
EXCLUSIONS								
Tile	Y	Y	Y	Y	Y	Y	Y	Y
Provisions for off-hour work as required.	Y	Y	Y	Y	Y	Y	Y	Y
Floor protection	Y	Y	Y	Y	Y	Y	Y	Y
Floor leveling	Y	Y	Y	Y	Y	Y	Y	Y
Resilient flooring (IIFT, RF & RF-S)	Y	Y	Y	Y	Y	Y	Y	Y
Resilient Athletic Flooring (RAF-1, RAF-2)	Y	Y	Y	Y	Y	Y	Y	Y
Terrazzo (T2ZO)	Y	Y	Y	Y	Y	Y	Y	Y
Polished concrete (AFC)	Y	Y	Y	Y	Y	Y	Y	Y
Items noted as EBP3 per sheets A1.1 thru A1.1.4	Y	Y	Y	Y	Y	Y	Y	Y
SCHEDULE REQUIREMENTS								
Lead Times								
Samples	WKS	2-3WKS	2-3WKS	2-3WKS	3WKS	2WKS	2WKS	2WKS
Submittals	WKS	2-3WKS	2-3WKS	2-3WKS	3WKS	2WKS	2WKS	2WKS
Materials (from approval)	WKS	6-8WKS	6-8WKS	6-8WKS	6-8WKS	6-8WKS	6-8WKS	6-8WKS
Schedule of Work								
Provisions for phasing as required	Y	Y	Y	Y	Y	Y	Y	Y
Includes all mobilizations as required	Y	Y	Y	Y	Y	Y	Y	Y
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS								
PREQUALIFICATION STATUS								
MBE/VBE		WBE	N	N	N	N	N	N
Insurance requirements	y	GOOD TILL 10/1/21	y	GOOD TILL 7/1/21	y	y	y	y
Waiver required (type, value associated etc.)	n	n	y	n	y	n	n	n
Capable of providing insurance coverages as required	y	y	y	y	y	y	y	y
Subcontractor Total:	\$ 345,100	\$ 363,300	\$ 367,600	\$ 378,147	\$ 405,467	\$ 411,748	\$ 412,900	-10%
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE								
Floor protection (fire retardant material)	1 LS	\$ 27,000	C \$ 27,000	C \$ 27,000	C \$ 27,000	C \$ 27,000	C \$ 27,000	C \$ 27,000



CONSIGLI
Est. 1905

February 23, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
Consigli Job #2153
GMP
Owner Approval Letter No. 36 – Resinous Epoxy Flooring

Dear Jim,

We have completed our review of the proposals for the **Resinous Epoxy Flooring** and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Business Interiors Floor Covering**, in the amount of **\$169,750**. Please find a summary of the award below. We request that an additional sum of **\$50,132**, be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Resinous Epoxy Flooring	
GMP estimate dated 11.24.20	\$250,513
Subcontract award value	\$169,750
Holds included outside the Subcontractor's award value	
Floor protection	\$20,132
Special power requirements 480 Volts 3 Phase 60 AMPS	\$10,000
Floor leveling ,Vapor Mitigation at Slabs as required (Provide compatible and fluid-applied flooring manufacturer approved moisture mitigation system)	\$20,000
Total award value for Resinous Epoxy Flooring	\$219,882
Savings against the GMP budget	\$30,631

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Resinous Epoxy Flooring		Total:	\$ 219,882	\$ 240,132	\$ 273,632	\$ 368,532	\$ 434,619	\$ 480,406
Arlington High School			Business Interiors Floor Covering (781) 938-9994/cell: C-781-426-6490 paulferraro@bifloor.com/John Gabaree <jgabaree@bifloor.com>	Pavilion Floors, Inc. (781) 933-8500 mtaveira@pavilionfloors.com	Stonhard, Division of StonCor Group, Inc. (800) 257-7953/ jfackler@stonhard.com	Flooring Solutions (401) 734-4470 wards@flooringsolutionsusa.com	Kaloutas & Co., Inc. (978) 532-1414/cell: 508.328.1959 jhealy@kaloutas.com	Select Tile, Marble & Flooring, LLC (603) 386-0391 estimating@selecttile.com
Amount in Estimate: \$ 250,513			John Gabaree/ Paul Ferraro	Mike Taveira	Jeanine Fackler/Rick Dudley	Doug Edwards	Jon Healy	Paul Pappalardo
CONTRACT DOCUMENTS								
Drawings prepared by: HMFH Architects dated October 7, 2020			Y	Y	Y	Y	Y	Y
Specifications prepared by: HMFH Architects dated 10/7/20 including:			Y	Y	Y	Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.			Y	Y	Y	Y	Y	Y
Section 007225 - CM's Supplemental Instructions dated 10/07/20			Y	Y	Y	Y	Y	Y
Section 096700 - Fluid-Applied Flooring			Y	Y	Y	Y	Y	Y
Addenda prepared by: HMFH Architects			Y	Y	Y	Y	Y	Y
Addendum 01, dated 10/16/20			Y	Y	Y	Y	Y	Y
Addendum 02, dated 10/23/20			Y	Y	Y	Y	Y	Y
Addendum 03, dated 10/28/20			Y	Y	Y	Y	Y	Y
Addendum 04, dated 11/2/20			Y	Y	Y	Y	Y	Y
Addendum 05, dated 11/5/20			Y	Y	Y	Y	Y	Y
Addendum 06, dated 11/6/20			Y	Y	Y	Y	Y	Y
Compliance with Owner's contract (spec 005223)			Y	Y	Y	Y	Y	Y
Compliance with Consigli contract			Y	Y	Y	Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:			Y	Y	Y	Y	Y	Y
Section B - Quality Plan			Y	Y	Y	Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)			Y	Y	Y	Y	Y	Y
Section E - Project Safety Requirements			Y	Y	Y	Y	Y	Y
Section F - Lean Requirements			Y	Y	Y	Y	Y	Y
Section G - Logistics/CMP Plan			Y	Y	Y	Y	Y	Y
Section H - Schedule			Y	Y	Y	Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan			Y	Y	Y	Y	Y	Y
RFI Log dated 11/02/2020			Y	Y	Y	Y	Y	Y
SCOPE OF WORK			\$ 169,750	\$ 190,000	\$ 219,000	\$ 318,400	\$ 379,987	\$ 430,274
General								
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.			Y	Y	Y	Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.			Y	Y	Y	Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.			Y	Y	Y	Y	Y	Y
Refer to Floor Pattern plans A2.9.0 thru A2.9.5			Y	Y	Y	Y	Y	Y
Floor Preparation								
Include floor prep as specified. Include flash patching of minor holes, cracks and depressions, treat control joints in the substrate.			Y	Y	Y	Y	Y	Y
Includes final broom sweep of floors to receive finished product.			Y	Y	Y	Y	Y	Y
096700 Fluid-Applied Flooring			10,570sf	11,056sf	11,871sf	13,350sf	12,079 SF	11,056sf
Furnish and install all fluid-applied flooring as shown by one of the following manufacturers (please specify): Dur-A-Flex; General Polymers; or Stonhard	11,504 sf	Y Dur-A-Flex	Y	Y Stonhard	Y Dur-A-Flex	Y Dur-A-Flex	Y Dur-A-Flex	Y Dur-A-Flex
Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.		Y	Y	Y	Y	Y	Y	Y
Color: As selected by Architect from manufacturer's full range.		Y	Y	Y	Y	Y	Y	Y
Includes 4" high, 1" radius integral cove base per drawings	4,548 lf	Y	Y	Y	Y	Y	Y	Y
Overall System Thickness: 3/16 inch (not including osmotic pressure barrier or grout).		Y	Y	Y	Y	Y	Y	Y
Includes primer, grout, troweled mortar, receiving coat, seal coats, joint sealants, etc. as required for complete installation		Y	Y	Y	Y	Y	Y	Y
2.2 Resinous flooring system shall be Troweled epoxy mortar with clear epoxy receiving coat, decorative quartz broadcast and clear epoxy sealer coat		Y	Y	Y	Y	Y	Y	Y
Includes F1, F2, F4 and F5 and G3 kitchen areas including but not limited to the following rooms:		Y	Y	Y	Y	Y	Y	Y

Resinous Epoxy Flooring		Total:	\$ 219,882	\$ 240,132	\$ 273,632	\$ 368,532	\$ 434,619	\$ 480,406
Arlington High School			Business Interiors Floor Covering (781) 938-9994/cell: C-781-426-6490 paulferraro@bifloor.com/John Gabaree <jgabaree@bifloor.com>	Pavilion Floors, Inc. (781) 933-8500 mtaveira@pavilionfloors.com	Stonhard, Division of StonCor Group, Inc. (800) 257-7953/ jfackler@stonhard.com	Flooring Solutions (401) 734-4470 wards@flooringsolutionsusa.com	Kaloutas & Co., Inc. (978) 532-1414/cell: 508.328.1959 jhealy@kaloutas.com	Select Tile, Marble & Flooring, LLC (603) 386-0391 estimating@selecttile.com
Amount in Estimate: \$ 250,513			John Gabaree/ Paul Ferraro	Mike Taveira	Jeanine Fackler/Rick Dudley	Doug Edwards	Jon Healy	Paul Pappalardo
A1.3.3 TEMP LOCKER ROOMS - Per the MASTER FINISH SCHEDULE of the renovated areas on drawing A1.2.8, the locker room floors are "ETR". Include Patch & match existing floor finish where noted on the drawings for detail 4/A1.3.3. Assumed existing floor is Epoxy (determination being made from the Room Key note, F4 next to the room numbers on A1.3.3.) For detail 2/A1.3.3 although the Room key note is F3 (for Resinous) the drawing note reads "Patch in 650 SF of New Ceramic Mosaic floor tile where lockers are removed) RFI-205 dated 02.17.21 pending.		N	N	N	N	N	N	N
A2.0a 124 & 124a, t1-19, t1-20, t1-21, t1-22, t1-23, t1-24, t1-25, t1-26, t1-10, 11, 12, t1-13 & room 117, t1-14, t1-15, t1-16, t1-17, t1-18		Y	Y	Y	Y	Y	Y	Y
A2.0b 114, 114c, c1-05, T1-08, T1-09, t1-01, t1-02, t1-03, t1-04, t1-05, t1-06, t1-07		Y	Y	Y	Y	Y	Y	Y
A2.0c PART C First Floor: p1-01a, p1-04a, p1-02a, p1-05a, t1-27, t1-28, p1-06a, p1-08a, p1-09a. Section C, Upper First floor: , p2-01a, tp2-01, tp2-02, p2-04a, p2-05a, p2-07a, p2-08a		Y	Y	Y	Y	Y	Y	Y
A2.2A t2-18, 19, 20		Y	Y	Y	Y	Y	Y	Y
A2.2B t2-01, 02, 03, 04, 05, 06		Y	Y	Y	Y	Y	Y	Y
A2.2C t2-21, 22, 23		Y	Y	Y	Y	Y	Y	Y
A2.2D t2-07, 08, 09, 10, 11, 12		Y	Y	Y	Y	Y	Y	Y
A2.2E t2-13, 14, 15, T2-16, T2-17		Y	Y	Y	Y	Y	Y	Y
A2.3B T3-01, 02, 03, 04, 05, 06		Y	Y	Y	Y	Y	Y	Y
A2.3D t3-07, 08, 09, 10, 11, 12		Y	Y	Y	Y	Y	Y	Y
A2.3E t3-13, 14		Y	Y	Y	Y	Y	Y	Y
A2.4B t4-01, 02, 03, 04, 05, 06		Y	Y	Y	Y	Y	Y	Y
A2.4D t4-07, 08, 09, 10, 11, 12		Y	Y	Y	Y	Y	Y	Y
A2.5B t5-01, 02, 03, 04, 05, 06		Y	Y	Y	Y	Y	Y	Y
A2.5D t5-07, 08, 09, 10, 11, 12		Y	Y	Y	Y	Y	Y	Y
Per specification 096700-4: Allowances should be included for Stonflex MP7 joint fill material, and CT5 concrete crack treatment as manufactured by Stonhard or approved equivalent.		Y	Y	Y	Y	Y	Y	Y
3.1 B.5. Perform Moisture Testing, PH testing as specified.		Y	Y	Y	Y	Y	Y	Y
Miscellaneous								
Visited site		N	N	N	N	N	N	N
Mockups as required and specified		Y	Y	Y	Y	Y	Y	Y
Clean up to central location		Y	Y	Y	Y	Y	Y	Y
All miscellaneous materials as required to complete scope		Y	Y	Y	Y	Y	Y	Y
Transition strip & other accessories as required/specified		Y	Y	Y	Y	Y	Y	Y
QUANTITIES								
Manhours		1,072mh	960 hrs	960mh	1,050mh	PENDING	2,064mh	
Epoxy floor		10,570 sf	11,000 sf	11,871 sf	13,350 sf	12,079 sf	11,056 sf	
Epoxy base		4548 lf	4,000 lf	4,391 lf	4,195 lf	4,670 lf	3,988 lf	
BREAKOUT VALUES (\$\$ - included in values above)								
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS								
M/WBE Participation		N	N	N	N	N	N	
Prevailing Wage per specifications		Y	Y	Y	N	Y	Y	
Labor Affiliations - indicate your affiliations.		Y	Y	Y	Y	N OPEN SHOP	Y	
Union Carpenters and Laborers as applicable.		Y	Y	Y	Y	N OPEN SHOP	Y	
Layout from control provided by GC.		Y	Y	Y	Y	Y	Y	
Includes all field measurements as required.		Y	Y	Y	Y	Y	Y	

Resinous Epoxy Flooring		Total:	\$ 219,882	\$ 240,132	\$ 273,632	\$ 368,532	\$ 434,619	\$ 480,406	
Arlington High School			Business Interiors Floor Covering (781) 938-9994/cell: C-781-426-6490 paulferraro@bifloor.com/John Gabaree <jgabaree@bifloor.com> John Gabaree/ Paul Ferraro	Pavilion Floors, Inc. (781) 933-8500 ntaveira@pavilionfloors.com Mike Taveira	Stonhard, Division of StonCor Group, Inc. (800) 257-7953/ jfackler@stonhard.com Jeanine Fackler/Rick Dudley	Flooring Solutions (401) 734-4470 wards@flooringsolutionsusa.com Doug Edwards	Kaloutas & Co., Inc. (978) 532-1414/cell: 508.328.1959 jhealy@kaloutas.com Jon Healy	Select Tile, Marble & Flooring, LLC (603) 386-0391 estimating@selecttile.com Paul Pappalardo	
Amount in Estimate: \$ 250,513									
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.			Y	N	Y	N	N	N	
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.			Y	Y	Y	N	Y	Y	
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.			Y	Y	Y	Y	Y	Y	
6'0" fall protection.			Y	Y	Y	Y	Y	Y	
Inclusion of all materials & labor price increases for the duration of the project.			Y	Y	Y	Y	Y	Y	
Inclusion of any and all tariffs in place, and known about, as applicable, at the time of a signed contract agreement.			Y	Y	Y	N	Y	Y	
Includes LEED requirements as specified.			Y	Y	Y	Y	Y	Y	
Includes background checks as required			Y	Y	Y	Y	Y	Y	
All offsite storage costs required for the completion of work of this trade.			Y	Y	Y	Y	Y	Y	
Complete work of this trade as shown on all contract documents including A's, S's, MEP's, etc.			Y	Y	Y	Y	Y	Y	
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.			Y	Y	Y	Y	Y	Y	
All requisitions are to be done on Textura software.			Y	Y	Y	Y	Y	Y	
EXCLUSIONS									
Power requirement, GC/Owner shall supply a 480/240-volt, 3-phase, 60 amperes rated grounded electrical power source for this subcontractors prep equipment. (By others)			Y	Y	Y	Y	Y	Y	
Off hr. work			Y	Y	Y	Y	Y	Y	
Tile			Y	Y	Y	Y	Y	Y	
Resilient flooring (IIFT, RF & RF-S)			Y	Y	Y	Y	Y	Y	
Terrazzo (TZZO)			Y	Y	Y	Y	Y	Y	
Polished concrete (AFC)			Y	Y	Y	Y	Y	Y	
Items noted as EBP3 per sheets A1.1.1 thru A1.1.4			Y	Y	Y	Y	Y	Y	
Stage Wood Flooring			Y	Y	Y	Y	Y	Y	
Wood Athletic Flooring			Y	Y	Y	Y	Y	Y	
Resilient Athletic Flooring			Y	Y	Y	Y	Y	Y	
Carpeting			Y	Y	Y	Y	Y	Y	
Entrance Floor Mats and Frames			Y	Y	Y	Y	Y	Y	
SCHEDULE REQUIREMENTS									
Lead Times									
Samples		WKS	2WKS	2WKS	2WKS	1-2WKS	2WKS	2WKS	
Submittals		WKS	2WKS	2WKS	2WKS	1-2WKS	1WKS	2WKS	
Materials (from approval)		WKS	2WKS	4WKS	2WKS	1-2WKS	1-2WKS	2WKS	
Schedule of Work - reference the milestone Schedule, part of C.M's supplemental instructions in Section 007225			Y	Y	Y TBD	Y TBD	Y TBD	Y	
Provisions for phasing as required			Y	Y	Y	Y	Y	Y	
Includes all mobilizations. Carry a minimum of (2) Mobilizations per Phase as required			Y	Y	N 3 mob. only	Y	N 3 mob. only	Y	
Adjust for additional MOB's, minimum (2) per phase		n/a	n/a	C \$ 4,500	n/a	C \$ 4,500	n/a		
Prequalification									
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS									
Subcontractor Total:				\$ 169,750	\$ 190,000	\$ 223,500	\$ 318,400	\$ 384,487	\$ 430,274
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE									
Floor protection	11,504 SF	1.75	\$ 20,132	C \$ 20,132	C \$ 20,132	C \$ 20,132	C \$ 20,132	C \$ 20,132	C \$ 20,132
SPECIAL POWER REQUIREMENTS 480 VOLTS 3 PHASE 60 AMPS	1 ls		\$ 10,000	C \$ 10,000	C \$ 10,000	C \$ 10,000	C \$ 10,000	C \$ 10,000	C \$ 10,000
2.3E Floor leveling, Vapor Mitigation at Slabs as required (Provide compatible and fluid-applied flooring manufacturer approved moisture mitigation system)	1 ls		\$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000	C \$ 20,000



CONSIGLI

Est. 1905

February 23, 2021

Sent via email only this date to Jim.Burrows@skanska.com

Mr. James Burrows
Skanska USA, Inc.
101 Seaport Boulevard,
Suite 200
Boston, MA 02210

RE: Arlington High School
 Consigli Job #2153
GMP
Owner Approval Letter No. 37 – Resilient Athletic Flooring

Dear Jim,

We have completed our review of the proposals for the **Resilient Athletic Flooring** and have prepared this recommendation letter for your review and formal approval. This approval will allow Consigli Construction Co., Inc. to enter into an agreement with **Kiefer Northeast LLC**, in the amount of **\$120,640**. Please find a summary of the award below. We request that an additional sum of **\$30,000**, be authorized as hold items outside the subcontract award value to be managed separately by the Consigli Project Manager, as described below. These holds shall be included in the cost report with the monthly reports. Please find a summary of award below.

TRADE: Resilient Athletic Flooring	
GMP estimate dated 11.24.20	\$156,500
Subcontract award value	\$120,640
Holds included outside the Subcontractor's award value	
Additional floor leveling, mitigation, protection.	\$30,000
Total award value for Resilient Athletic Flooring	\$150,640
Savings against the GMP budget	\$5,860

Please authorize Consigli Construction Co., Inc. to proceed with the award by executing in the space provided below and returning this copy for our files.

Very Truly Yours
Consignli Construction Company, Inc.

John LaMarre
Sr. Project Manager

Acknowledged and Accepted:
Skanska USA, Inc., on behalf of Arlington

By: _____
James Burrow (Project Manager)

Date: _____

cc: Todd McCabe, Project Executive.
Sunita Verma, Sr. Purchaser.

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School			Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
CONTRACT DOCUMENTS					
Drawings prepared by: HMFH Architects dated October 7, 2020			Y	Y	Y
Specifications prepared by: HMFH Architects dated 10/7/20 including:			Y	Y	Y
Compliance with all Division 0 and 1 specifications as applicable.			Y	N	Y
Section 007225 - CM's Supplemental Instructions dated 10/07/20			Y	N	Y
Section 018110, SUSTAINABLE DESIGN REQUIREMENTS			Y	Y	Y
Section 096566 - Resilient Athletic Flooring			Y	Y	Y
Addenda prepared by: HMFH Architects					
Addendum 01 , dated 10/16/20			Y	Y	Y
Addendum 02 , dated 10/23/20			Y	Y	Y
Addendum 03 , dated 10/28/20			Y	N	Y
Addendum 04 , dated 11/2/20			Y	N	Y
Addendum 05 , dated 11/5/20			Y	N	Y
Addendum 06 , dated 11/6/20			Y	N	Y
Compliance with Owner's contract (spec 005223)			Y	Y	Y
Compliance with Consigli contract			Y	Y	Y
Compliance with Spec Section - 007225 - Supplemental Instruction to Bidders, including:			Y	N	Y
Section B - Quality Plan			Y	Y	Y
Section C - 3D Coordination Specification (as applicable to this trade)			Y	Y	Y
Section E - Project Safety Requirements			Y	Y	Y
Section F - Lean Requirements			Y	Y	Y
Section G - Logistics/CMP Plan			Y	Y	Y
Section H - Schedule			Y	Y	Y
Section O - COVID-19 Site Specific Safety Plan			Y	Y	Y
RFI Log dated 11/02/2020			Y	N	Y
SCOPE OF WORK			\$ 120,640	\$ 135,320	\$ 145,500
General					
Provide all labor, materials, and equipment as required to complete the scope of work as shown on the drawings, and as further described below.			Y	Y	Y
Specific items identified below are intended as a reference for scope only. Subcontractor is responsible for providing all items for their work and related work shown on the drawings, as specified, or needed to make this scope of work complete.			Y	Y	Y
Inclusion of all reference keynotes and general notes shown on drawings, as applicable to this trade.			Y	Y	Y
Refer to Floor Pattern plans A2.9.0 thru A2.9.5			Y	Y	Y
Floor Preparation					
Includes final broom sweep of floors to receive finished product.			Y	Y	Y

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School		 CONIGLI	Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
paragraph 2.3, section 096566	Provide an average of 1/8" thick leveling patching compound on all new and existing slab surfaces to receive resilient flooring. Includes 1/8" coat of floor preparation at all floors		Y	Y	Y
096566 Resilient Athletic Flooring	Furnish and install athletic sports surface as indicated in the Drawings and as specified The Work of this Section includes, but is not limited to, the following: Vinyl sheet sports surface flooring Poured seamless type resilient Gamelines and artwork. Substrate preparation for resilient flooring and accessories.		Y Y Y Y Y Y	Y Y Y Y Y Y	Y Y Y Y Y Y
	It is mutually understood and agreed that Since the adhesive specified is good for upto 98% RH the Moisture mitigation has been excluded. If required it shall be based on a Unit price)		Y	Y	Y
1.6 QUALITY ASSURANCE	Installer Qualifications: Installer shall have successfully completed within the last three (3) years three (3) sports surface flooring applications of similar type and size. Mechanics from these earlier applications shall be used on this project, one of whom shall serve as lead mechanic.		Y	Y	Y
			Y	Y	Y
RAF-1 as - Vinyl Athletic Flooring with welded seams	High performance vinyl with non-woven fiberglass reinforced closed-cell vinyl foam backing		Y	Y	Y
	by one of the following manufacturers (please specify): Gerflor - Tarflex Sports M Plus (7.5mm); Mats, Inc - Gameflex (8 mm); or Tarkett - OmniSports (7.1mm) OR Approved equal	State the MFR.	Y Tarkett - OmniSports	Y Tarkett	Y Tarkett OmniSport 7.1mm
A2.0 floor type B2 on master finish schedule			Y	Y	Y
Preschool multi-purpose room P1-11			Y	Y	Y
A2.1 a.1.b.	Product Format: Roll Width: Manufacturer's standard width, minimum 4'11". Length: Manufacturer's standard length, minimum 49'2". Thickness: Minimum 7.1 mm Wear layer thickness: Minimum 1.3 mm Sport Properties (ASTM F2772): Class 2 or Class 3. Fire Rating (ASTM C648): Class 1 8) Colors: Up to <u>two different colors</u> , in proportions as required to produce pat-term as shown on the Drawings. Colors as selected by Architect from manufacturer's full range.		Y	Y	Y

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School		 CONIGLI	Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
Installation Method: Adhered.			Y	Y	Y
2.1 A.1.g Accessories:			Y	Y	Y
Trowelable Leveling and Patching Compound:			Y	Y	Y
Moisture Mitigation System: Manufacturer recommended system.			Y	Y	Y
Adhesive: Water-resistant type recommended in writing by manufacturer for substrate and conditions indicated.			Y	Y	Y
Provide adhesive and installation methods that allow flooring to be installed on concrete with up to 98 percent RH. Provide moisture mitigation if adhesive is not recommended for use on concrete with 98 percent RH			Y	Y	Y
15 year sheet vinyl flooring manufacturer warranty			Y	Y	Y
heat welded seams			Y	Y	Y
Game lines and artwork per drawings : Use compatible coatings with matte texture, in proportions as required to produce pattern as shown on the Drawings. Gameline shown on A2.9.0, no artwork shown, RFI email dated 02/16/21 to confirm teh Art work requirement is pending			Y	Y	Y
RAF-2 - Poured Seamless Sports Flooring			Y	Y	Y
Provide a seamless <u>three-layer</u> synthetic resilient sports surface system, comprising a shock pad, structural layer and seamless resurfaceable wear layer for a durable surface as specified in paragraph 2.2			Y	Y	Y
Moisture Mitigation System: Manufacturer's system product to allow flooring to be installed at up to 98 percent RH. If the Manufacturer does not provide a system product then the installer shall provide a moisture mitigation system in accordance with Section 091060 and as acceptable to the manufacturer.			Y	Y	Y
Flooring material shall meet the performance requirements specified in paragraph 2.2 F.			Y	Y	Y
<u>Colors: As selected by Architect from manufacturer's full range</u>			Y	Y	Y
by one of the following manufacturers (please specify): Connor Sports Flooring - ElastiPlus (11mm); Robbins Sports Flooring Systems - Pulastic Classic 110; or Tarkett Pad-n-Pour 9+2 OR Approved equal	State the MFR.	Tarkett Pad-n-Pour 9+2	Y		Y Tarkett Pad-n-Pour 9+2 system
A2.0 Floor type B4 on master finish schedule			Y	Y	Y
Alt PE 246			Y	Y	Y
Special Ed Alt PE 247			Y	Y	Y
25 year poured seamless flooring manufacturer warranty			Y	Y	Y
Game Lines and Artwork: Use compatible coatings with matte texture in up to <u>4 colors</u> as selected by Architect. Graphic Artwork will be supplied by the Architect.			Y	Y	Y
Include flooring adhesive, fasteners, thresholds, reinforcement, padding (glued or loose) etc. as required for complete installation.			Y	Y	Y
A2.7c; RFI A34 Install volleyball inserts in Alt PE furnished by athletic equipment subcontractor			Y	C \$ 2,000	Y
Review ADD03 - item 046 - Installation of volleyball inserts at Alt PE			Y	N	
Install in strict accordance with PART 3- execution of the specifications, no exceptions			Y	Y	Y

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School			Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
Examine and prepare substrates			Y	Y	Y
Perform Alkalinity, Moisture and RH testing			Y	Y	Y
MAINTENANCE INSTRUCTIONS AND ADDITIONAL MATERIALS :			Y	Y	Y
Furnish maintenance instructions and sufficient materials to repair thirty (30) square feet of each type of athletic flooring, to authorized representatives of the Owner and obtain a signed receipt.			Y	Y	Y
Provide instructions for repair and patching using materials furnished.			Y	Y	Y
Miscellaneous					
Mockups as required and specified			Y	N	Y
Clean up to central location			Y	Y	Y
All miscellaneous materials as required to complete scope			Y	Y	Y
Transition strip & other accessories as required/specified			Y	Y	Y
Includes all attic stock as specified			Y	Y	Y
QUANTITIES					
Manhours			360 mh	pending	515 mh
RAF-1 - Sheet good. more important to get leveled			1,460 sf	1,620 sf	1,500 sf
RAF-2 - poured product, recycled mat 9mm thick gets glued down, seal it and then pour a 2mm urethane and then paint it after it hardens (game lines etc.)			10,000 sf	9,800 sf	10,000 sf
BREAKOUT VALUES (\$\$ - included in values above)					
ADDITIONAL PROJECT-SPECIFIC REQUIREMENTS					
Tax-Exempt			Y	Y	Y
Work hours are 7:00am – 3:30pm.			Y	Y	Y
While school is in session, all deliveries must be between the hours of 8:30am – 2:30pm, and after 3:30pm (coordinate with Consigli).			Y	Y	Y
Town of Arlington restrictions: Heavy equipment operating , hours of operation 8:00am to 6:00pm.			Y	Y	Y
All manufacturers, materials and finishes as shown and specified.			Y	Y	Y
Includes performance and quality requirements as specified.			Y	Y	Y
Includes all submittals, shop drawings, warranties, etc. as specified and required.			Y	Y	Y
Prevailing Wage per specifications			Y	Y	Y
Labor Affiliations - indicate your affiliations.			Y Local 2168 Floor coverers	Y Local 2168 Floor coverers	Y Local 2168 Floor coverers
Union Carpenters and Laborers as applicable.			Y	Y	Y

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School		 CONIGLI	Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
Layout from control provided by GC.			Y	Y	Y
Includes all field measurements as required.			Y	Y	Y
All hoisting and rigging of equipment and materials as required to complete the work of this Subcontract.			Y	Y	Y
All equipment including staging/ladders/lifts etc. as required to complete the work of this trade.			Y	Y	Y
Includes protection of all materials/equipment supplied by this subcontractor, stored on site.			Y	Y	Y
Inclusion of all materials & labor price increases for the duration of the project.			Y	Y	Y
Inclusion of any and all tariffs in place, and known about, as applicable, at the time of a signed contract agreement.			Y	Y	Y
Includes LEED requirements as specified.			Y	Y	Y
Includes background checks as required			Y	Y	Y
Complete work of this trade as shown on all contract documents including A's, S's, MEP's, etc.			Y	Y	Y
Subcontractor has included all costs required to conform with the CCCI COVID-19 site-specific safety plan, in conjunction with the project schedule, including, but not limited to, manpower and crew modifications, PPE requirements, testing requirements, etc., in order to stay in strict compliance while performing all work on site.			Y	Y	Y
All requisitions are to be done on Textura software.			Y	Y	Y
EXCLUSIONS					
Section 090160 - Vapor Mitigation at Slabs (partial)			Y Adhesives good up to 98% RH as specified	Y Adhesives good up to 98% RH as specified	Y Adhesives good up to 98% RH as specified
Provisions for off-hour work as required.			Y	Y	Y
Tile			Y	Y	Y
Resilient flooring (IFT, RF & RF-S)			Y	Y	Y
Items noted as EBP3 per sheets A1.1.1 thru A1.1.4			Y	Y	Y
Prequalification					
SCHEDULE REQUIREMENTS					
Lead Times					
Samples		WKS	1WK	2-3WKS	2WKS
Submittals		WKS	2WKS	2-3WKS	3WKS
Materials (from approval)		WKS	4WKS	4-8WKS	8WKS
Schedule of Work					
Approximate completion					
# of days to complete RAF -1			3 days		
# od days to complete RAF-2			12 days		
Provisions for phasing as required			Y	Y	Y

Resilient Athletic Flooring		Total:	\$ 150,640	\$ 167,320	\$ 175,500
Arlington High School		 CONSIGLI	Kiefer Northeast LLC (224) 643-7642/Cell: 781.858.9319 rob@kieferne.com Rob Belkner (partner)	JC Floorcovering Co., Inc. (978) 988-9229 jared@jcfloors.net Jared Colombo	FJ Roberts - AASG Sports Surfaces, Inc. (978) 777-6820 miked@fjrobertsfloors.com Mike DiNatale
Amount in Estimate:	\$ 156,500				
All mob's as required			Y	Y	Y
ADDITIONAL QUALIFICATIONS AND REQUIREMENTS					
		Subcontractor Total:	\$ 120,640	\$ 137,320	\$ 145,500
UNIT PRICES					
HOLDS & ALLOWANCES FOR UNDEFINED SCOPE					
HOLD	Additional floor leveling, mitigation, protection for approx 11,460 SF	1 ls	\$ 30,000	\$ 30,000	\$ 30,000
		Holds/Allowances Total:	\$ 30,000	\$ 150,640	\$ 167,320



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Revised July 10, 2019
June 4, 2019
BAI #M17079MA/218024

Ms. Lori Cowles, AIA CFP LEED AP
Principal
HMFH Architects
130 Bishop Allen Drive
Cambridge, MA 02139

REFERENCE: *Traffic Impact Analysis – Additional Analysis*
Arlington High School
Massachusetts Avenue
Arlington, Massachusetts

Dear Ms. Cowles:

In accordance with our discussion, Bryant Associates, Inc. (Bryant) is pleased to have the opportunity to submit this Proposal and Agreement for Additional Professional Services for the above-referenced project. Outlined herein are the description of your project, our Scope of Services, and the method and basis of compensation for our services.

PROJECT DESCRIPTION

The Town of Arlington is proposing to replace the existing Arlington High School buildings, which are located on Massachusetts Avenue in Arlington, MA. As part of the review process, a traffic impact analysis for the site was required for this school project. Subsequent meetings and coordination with the Town's Transportation Advisory Committee (TAC) has identified and requested additional traffic analysis services to be investigated related to the high school site. All of these tasks are related to requests from the TAC outside of the base contract for the project.

SCOPE OF SERVICES

Basic Services

Task 1 – Traffic Impact Analysis – Additional Work

1. Bryant will examine two alternatives for on-site traffic, where one alternative will have anticipated trips split equally between two driveways and the other alternative is the traffic split equally between three driveways. Bryant will revise the trip distribution for the proposed high school considering these two alternatives. Projected levels of service (LOS) will be calculated for the study area for both alternatives.

2. A revised report or a letter supplement will be prepared describing the revised analysis and conclusions and recommendations resulting from the revised analysis of the proposed alternatives.
3. Bryant will review and respond in writing to owner or peer review comments.

Task 2 – Mill Street Corridor Analysis

1. Additional traffic turning movement counts: Counts will be undertaken on a school weekday from 10:00 A.M. to 1:30 P.M. and from 5:30 P.M. to 7:00 P.M. at the intersections of Summer Street, Mill Street, and Cutter Hill Road; Mill Street and Mill Brook Drive; and Massachusetts Avenue, Mill Street, and Jason Street.

In addition, 12-hour pedestrian/bicycle counts will be collected at the Minuteman Commuter Bikeway crossing on Mill Street.

If it is determined that additional intersections or locations will require traffic turning movement counts (or traffic speed/volumes using road tubes) due to existing or proposed traffic patterns, it will be accomplished by supplemental agreement.

2. Analysis: A corridor analysis of Mill Street will be undertaken, including queuing analysis and consideration to the commuter P.M. peak hour with the proposed traffic signal at Mill Street and Mill Brook Drive. Bryant will investigate potential mitigation for the corridor including signal retiming and the restriping of the corridor.
3. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of the corridor improvements. If it is determined that the corridor improvements will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.

Task 3 – Schouler Court Signalization

1. Field Review: Bryant will coordinate with the Town to obtain access to the existing traffic signal controller cabinet. The condition and operation of the signal controller will be obtained from a review of the existing signal equipment.
2. Analysis: Bryant will investigate potential improvements for the signal including signal retiming and its coordination with the existing Massachusetts Avenue pedestrian crossing signal (west of Churchill Avenue).
3. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of the signalization improvements. If it is determined that the signalization improvements will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.



Task 4 – Grove Street Connection

1. Additional traffic turning movement counts: Counts will be undertaken on a school weekday from 6:00 A.M. to 10:00 A.M. and from 1:30 P.M. to 7:00 P.M. at the signalized intersections of Summer Street with Brattle Street and with Symmes Road; and Massachusetts Avenue, Highland Avenue, and the Stop and Shop driveway.

Also, additional traffic turning movement counts will be undertaken on a school weekday from 10:00 A.M. to 1:30 P.M. and from 5:30 P.M. to 7:00 P.M. at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street. These intersections were previously counted between the hours of 6:00 A.M. to 10:00 A.M. and from 1:30 P.M. to 5:30 P.M.

If it is determined that additional intersections or locations will require traffic turning movement counts (or traffic speed/volumes using road tubes) due to existing or proposed traffic patterns, it will be accomplished by supplemental agreement.

2. Field Review: Information, including roadway widths and geometry, existing traffic control devices, utility locations, traffic operations, and other pertinent data, will be obtained from a field review of the adjacent signalized intersections of Summer Street with Brattle Street and with Symmes Road; and Massachusetts Avenue, Highland Avenue, and the Stop and Shop driveway..
3. Analysis: An analysis of the impacts to traffic capacity of the operation of Grove Street with a proposed connection from the high school will be undertaken, including for the commuter P.M. peak hour and potential signalization at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street. A traffic signal warrant analysis will be performed for both intersections. If the traffic signals are warranted, impact on the adjacent signals on Massachusetts Avenue (at Stop and Shop) and Summer Street (Brattle Street and Symmes Road) will also be analyzed. Bryant will also investigate additional potential mitigation for Grove Street.
4. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of potential roadway improvements to Grove Street as well as the implementation of potential traffic signals at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street, as applicable. If it is determined that the roadway improvements and/or traffic signals will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.

Task 5 – Massachusetts Avenue Alternatives (between Schouler Court and Newman Way)

1. Analysis: Bryant will investigate potential improvements for Massachusetts Avenue between Schouler Court and Newman Way including the restriping of the roadway and installation of bump-outs and cycle tracks.



2. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of the roadway improvements. If it is determined that the roadway improvements will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.

Task 6 – Massachusetts Avenue Pedestrian Coordination

1. Analysis: Bryant will investigate potential mitigation for signal retiming and/or coordination of the signalized Massachusetts Avenue pedestrian crossing and its impacts with the potential alternatives of roadway restriping, bump-outs, and cycle tracks.
2. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of the signal/roadway improvements. If it is determined that the signal/roadway improvements will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.

Task 7 – Summer Street Pedestrian Connection

1. Additional traffic data collection: 24-hour traffic volume and speed data will be undertaken on a school weekday on Summer Street in the vicinity of the anticipated Summer Street connection to the Minuteman Commuter Bikeway.
2. Field Review: Information, including roadway widths and geometry, existing traffic control devices, utility locations, existing sight distances, traffic operations, and other pertinent data, will be obtained from a field review of the vicinity of the anticipated Summer Street connection.
3. Analysis: An analysis of the impacts to safety of the operation of the proposed pedestrian connection will be undertaken. The speed data obtained in the field will be analyzed to determine the 85th percentile speed of existing traffic. The adequacy of the sight distance at the proposed pedestrian connection will be determined. Bryant will investigate potential mitigation on Summer Street in the vicinity of the proposed pedestrian connection including restriping and bump-outs.
4. Feasibility Sketch(es): Bryant will develop feasibility sketches to depict the implementation of the roadway improvements. If it is determined that the roadway improvements will require a full design with construction plans and specifications, it will be accomplished by supplemental agreement.

Task 8 – On-Site Queuing Analysis

1. Analysis: Bryant will review the anticipated on-site queuing at the proposed drop-off/pick-up area in the back of the school for one internal site layout and will recommend revisions to the site plan, as needed. If it is determined that more than one internal site layout will require review and comment, it will be accomplished by supplemental agreement.



Ms. Lori Cowles, AIA CEEP LEED AP

Revised July 10, 2019

June 4, 2019

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Task 9 – Meetings

1. Bryant will attend up to three (3) meetings, as requested by HMFH Architects, with town officials to discuss traffic operations impacted by the proposed project.

Deliverables

Report or Supplemental Letter: An 8 1/2" x 11" report/letter will be prepared describing the data collection, analysis, and conclusions and recommendations resulting from the additional analysis of the proposed school. 11"x17" feasibility sketches will be prepared, as applicable.

Outside Services

Traffic counts and traffic speed data will be acquired by Precision Data Industries, LLC (PDI).

Additional Services

Additional services shall include, but not be limited to, attendance at meetings with you and/or attorneys, municipal agencies, departments, or public boards, as well as out-of-pocket expenses such as printing costs, etc.

SERVICES PROVIDED BY HMFH ARCHITECTS

HMFH Architects will supply available pertinent data, including site plans, current and future student demographics, historic information, building design, etc.

PERIOD OF SERVICE

The time period for performance of the services as set forth in the Scope of Services shall be in accordance with the schedule for the project and the anticipated time period for the traffic counts.

BASIS OF COMPENSATION

HMFH Architects shall pay Bryant Associates for services rendered, as described above, a total lump sum fee in the amount of Thirty-Seven Thousand Six Hundred Dollars and Zero Cents (\$37,600.00).

Task 1	\$ 7,850
Task 2	\$ 6,000
Task 3	\$ 3,150
Task 4	\$ 8,750
Task 5	\$ 1,700
Task 6	\$ 1,250
Task 7	\$ 3,300
Task 8	\$ 2,000
Task 9	\$ 3,600
<hr/>	
TOTAL	\$37,600



Ms. Lori Cowles, AIA CEFPP LEED AP

Revised July 10, 2019

June 4, 2019

Page 6

HMFH Architects shall pay Bryant Associates for additional services rendered beyond the Basic Services an amount based upon accrued time for services rendered by principals and employees assigned to the project. Attendance at meetings before public boards or agencies shall be compensated at a rate of \$1,200.00 per meeting.

Bryant Associates reserves the right to renegotiate or adjust the fee accordingly if our Proposal for Services is not accepted within a 90-day period.

This represents our best judgment at this time as to the effort required to achieve the stated objectives. It should be recognized that, should you change the Scope of Services or corresponding level of effort upon which the proposal is based, an increase in charges may result. You will be notified of any change regarding an increase in charges, and we will not exceed the recommended budget without your approval, nor will we be required to work beyond the approved budget.

ACCEPTANCE

This proposal may be accepted by signing in the appropriate space on the following page and returning a copy to us. Your signing of this letter constitutes your acceptance of all paragraphs included. Please do not hesitate to consult with us concerning any questions about this Agreement.

Thank you for the opportunity to submit this additional work proposal. If you have any questions, please do not hesitate to contact me at (401) 834-1063 or tbrayton@bryant-engrs.com.

Very truly yours,
BRYANT ASSOCIATES, INC.


Todd E. Brayton, PE
Director of Operations – Rhode Island
Transportation Director

TEB:erl



Ms. Lori Cowles, AIA CEFPI LEED AP

Revised July 10, 2019

June 4, 2019

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This Proposal for Services is hereby accepted and executed by a duly authorized signatory who, by execution hereof, warrants that he/she has full authority to act for, in the name of, and on behalf of HMFH Architects.

AGREED TO BY: HMFH ARCHITECTS

Signature

Date

Printed Name

Title



HMFH Architects

Arlington High School

Massachusetts Avenue
Arlington, Massachusetts

Supplemental Traffic Impact Analysis Report



February 2020

 **BRYANT
ASSOCIATES**
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Arlington High School

Arlington, MA

1.0 Introduction

1.1 Purpose of Supplemental Study

This supplemental traffic study was prepared in response to the Arlington's Transportation Advisory Committee's review of the *Arlington High School Traffic Impact Analysis (TIA)*, dated August 2018. The August 2018 TIA was prepared at the request of HMFH Architects in connection with its study of a new school building(s) at the Arlington High School site on Massachusetts Avenue in Arlington, Massachusetts. It is the intent of this study that it be used in conjunction with the August 2018 TIA.

1.2 Description of Project

The project site is located at the existing Arlington High School site on Massachusetts Avenue in Arlington, which had approximately 1,350 high school students in 2018. The existing Arlington High School site also provides accommodations for LABBB Collaborative students, 92 Menotomy Preschool students, children in the Arlington Public Schools Childcare Program (APSCP), and the staff associated



Figure No. 1 Location Map

Arlington High School

Arlington, MA

with all these programs. Additionally, other Town personnel also access the existing site, including School District Staff, Town Facilities Staff, and Town IT Staff. As shown in Figure No. 1, the existing school has a one-way loop, Carey Drive, with the entrance-only driveway on Massachusetts Avenue and exit-only driveway on Schouler Court to Massachusetts Avenue. The one-way loop is primarily used for faculty/staff parking, student drop-off/pick-up, and van access. There is additional parking that is accessed through Schouler Court on the northwest corner of the site. There is also parking for faculty/staff on the northeast corner of the site which is accessed through Mill Brook Drive. There is Arlington High School permitted parking on the north side of Massachusetts Avenue between Carey Drive and Schouler Court. There is a signalized pedestrian crosswalk across Massachusetts Avenue located to the west of Churchill Avenue. The Minuteman Commuter Bike Way runs along the north side of the site, although currently there is no direct access to the bike way from the existing high school site.

The proposed project alternative being pursued is an all-new building at the existing Arlington High School site to accommodate the future needs of the community. It is anticipated that the proposed all-new high school would be fully constructed in 2024. The proposed all-new high school project will be designed to accommodate 1,755 high school students, 135 preschool students, and associated additional high school and preschool staff needed for these programs. The populations of the remaining uses located on the site (i.e. LABBB, APSCP, and other Town offices) are expected to be maintained with only minor modifications and for purposes of this study; it is assumed that these uses will result in little to no additional anticipated vehicle trips. The proposed site layout will eliminate Carey Drive, the existing one-way loop off of Massachusetts Avenue.

1.3 Data Collection

Traffic turning movement counts, including bicycle and pedestrian counts, were conducted at the intersections within the study area on May 16, 2018 and October 16, 2019. Traffic volume data using automatic traffic recorders was also acquired on multiple roadways within the study area. A summary of the traffic data collection is shown in Table No. 1. The 2019 traffic count data is shown in Appendix A. The traffic count data that was collected in 2018 can be found in the August 2018 TIA appendices.



Arlington High School
Arlington, MA

Table No. 1 – Traffic Data Collection Summary

Intersection or Roadway	May 16, 2018 6:00 to 10:00 A.M. & 1:30 to 5:30 P.M.	May 16, 2018 24-hour Counts	Oct. 16, 2019 6:00 to 10:00 A.M. & 1:30 to 7:00 P.M.	Oct. 16, 2019 10:00 A.M. to 1:30 P.M. & 5:30 to 7:00 P.M.	Oct. 16, 2019 24-hour Counts	Oct. 16, 2019 7:00 A.M. to 7 P.M.
Summer Street, Brattle Street, & Symmes Road			X			
Summer Street & Grove Street	X			X		
Summer Street in the vicinity of House #141 Summer Street					X	
Summer Street, Mill Street, & Cutter Hill Road	X			X		
Mill Street & the Minuteman Commuter Bike Way						X
Mill Street, Mill Brook Drive, & the Millbrook Square driveway	X			X		
Mill Brook Drive in the vicinity of the existing school parking lot		X				
Mill Street south of Mill Brook Drive		X				
Massachusetts Avenue, Mill Street, & Jason Street	X			X		
Massachusetts Avenue & Carey Drive (school driveway)	X					
Massachusetts Avenue west of Churchill Avenue		X				
Massachusetts Avenue, the signalized pedestrian crosswalk, & Churchill Avenue	X					
Massachusetts Avenue, Schouler Court, & Lockeland Avenue	X					
Carey Drive near Schouler Court		X				
Schouler Court in vicinity of the existing school parking lot		X				
Massachusetts Avenue, Highland Avenue, & the Stop & Shop driveway			X			
Massachusetts Avenue & Grove Street	X			X		
Grove Street south of the southern DPW/Town parking lot driveway		X				
Grove Street & the southern DPW/Town parking lot driveway	X					
Bicycle/pedestrian counts only at the school pathway to the southern DPW/Town parking lot	X					



Arlington High School

Arlington, MA

The calculated school A.M. peak hour for the intersections is 7:30 to 8:30. The school P.M. peak hour for the intersections is 2:15 to 3:15. The calculated commuter P.M. peak hour for the Massachusetts Avenue and Grove Street intersection, as well as the intersection of Summer Street, Brattle Street, and Symmes Road, is 4:45 to 5:45. The calculated commuter P.M. peak hour for the Summer Street and Grove Street intersection is 5:00 to 6:00. The calculated commuter P.M. peak hour for the Mill Street corridor intersections and the intersection of Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway is 5:15 to 6:15.

Pertinent field observations including existing stopping sight distance, location of existing utilities, posted speed limits, traffic control devices, etc. were made on June 14, 2018 and November 22, 2019. Crash data for the period from January 2015 through June 2018 was obtained from the Arlington Police Department. The crash data was discussed in the August 2018 TIA and a summary of this data can also be found in the August 2018 TIA appendices.

In addition, traffic speed data (shown in Appendix D) using automatic traffic recorders was acquired on Massachusetts Avenue west of Churchill Avenue, Mill Street south of Mill Brook Drive, and Grove Street south of the southern DPW/Town parking lot driveway on May 16, 2018. Traffic speed data was also acquired on Summer Street in the vicinity of house #141 Summer Street on October 16, 2019.

2.0 Traffic Forecasts

2.1 Existing Traffic Volumes for Additional Data

Existing traffic volumes for the study area were developed from traffic data obtained by Precision Data Industries, LLC (PDI). The summary of the existing traffic data that was collected in 2018 can be found in the August 2018 TIA.

The total 24-hour two-way traffic volume (from the automatic traffic recorder counts) on Summer Street in the vicinity of house #141 Summer Street is approximately 13,900 vehicles per day (vpd).

The school hours for the existing Arlington High School are from 8:00 A.M. to 2:26 P.M. The school A.M. peak hour, as indicated previously in Section 1.3, occurred between 7:30 and 8:30. The two-way traffic volume on Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway were 1,053 vehicles, 345 vehicles, and 78 vehicles, respectively. The school P.M. peak hour was measured between 2:15 and 3:15, with two-way traffic volumes on Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway of 1,076 vehicles, 308 vehicles, and 195 vehicles, respectively. The commuter P.M. peak hour was measured between 5:15 and 6:15, with two-way traffic volumes on Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway of 1,246 vehicles, 474 vehicles, and 253 vehicles, respectively.

The two-way traffic volumes on Summer Street, Brattle Street, and Symmes Road were 1,148 vehicles, 287 vehicles, and 75 vehicles respectively, during the school A.M. peak hour. The two-way traffic



Arlington High School

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volumes on Summer Street, Brattle Street, and Symmes Road were 939 vehicles, 229 vehicles and 99 vehicles respectively, during the school P.M. peak hour. The commuter P.M. peak hour was measured between 4:45 and 5:45, with two-way traffic volumes on Summer Street, Brattle Street, and Symmes Road of 1,288 vehicles, 324 vehicles, and 73 vehicles, respectively.

The commuter P.M. peak hour for the Mill Street corridor occurred between 5:15 and 6:15. The two-way traffic volumes on Summer Street, Mill Street, and Cutter Hill Road were 1,445 vehicles, 860 vehicles, and 81 vehicles respectively, during the commuter P.M. peak hour. The two-way traffic volumes on Mill Street, Mill Brook Drive, and the Millbrook Square driveway were 837 vehicles, 246 vehicles, and 18 vehicles respectively, during the commuter P.M. peak hour. The two-way traffic volumes on Massachusetts Avenue, Mill Street, and Jason Street were 1,497 vehicles, 822 vehicles, and 605 vehicles respectively, during the commuter P.M. peak hour.

The commuter P.M. peak hour was measured between 5:30 and 6:30, with two-way traffic volumes on Massachusetts Avenue and Grove Street of 1,288 vehicles and 491 vehicles, respectively.

The commuter P.M. peak hour was measured between 5:00 and 6:00, with two-way traffic volumes on Summer Street and Grove Street of 1,581 vehicles and 500 vehicles, respectively.

2.2 Area Growth Rate

The 2019 existing traffic counts were adjusted with an annual growth rate, as was done in the August 2018 TIA. It is anticipated the opening (build) date for the proposed school is the year 2024. The Metropolitan Area Planning Council (MAPC) forecasts a 0.07% growth rate for the Town of Arlington during that time.

2.3 Vehicle Trip Generation

To evaluate the traffic impacts of the proposed school, it is necessary to determine the amount of traffic expected to be generated by the proposed improvements. The trip generation during the school A.M. and school P.M. peak hours for the proposed school was calculated based on existing traffic turning movement counts collected at the existing Arlington High School.

As stated in Section 1.2, the existing Arlington High School has 1,350 high school students and 92 preschool students. The new school will be designed to accommodate approximately 1,755 high school students and 135 preschool students. To estimate the increase in the number of trips anticipated to be generated by the increase in the number of students, a ratio was developed between the increase in students and the number of existing trips that currently enter and exit the existing Arlington High School, including students, staff, and parents. The vehicle volumes anticipated to be generated by the proposed high school development during the school A.M. and school P.M. peak hours, can be found in Table No. 2.

The trip generation calculations during the commuter P.M. peak hour for the proposed school were based on data compiled in Trip Generation (10th Edition), an informational report published by the



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Institute of Transportation Engineers (ITE). Trip Generation is a tool for planners, transportation professionals, zoning boards, and others who are interested in estimating the number of vehicle trips generated by a proposed development or land use. This document is based on numerous trip generation studies submitted to the Institute by public agencies, developers, consulting firms, and associations.

The number of additional trips anticipated to be generated by the high school during the commuter P.M. peak hour was estimated using ITE Trip Generation Land Use Code 530, High School, which sets forth trips generated at facilities similar to the proposed use. The volumes anticipated to be generated by the increase in the student population (405 students) for the proposed school during the commuter P.M. peak hour can be found in Table No. 2.

Table No. 2
Trip Generation Summary
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Time Period	Direction	New Trips
School A.M. Peak Hour	Enter	+127
	Exit	+83
	Surrounding Roadways	+84
School P.M. Peak Hour	Enter	+65
	Exit	+68
	Surrounding Roadways	+62
Commuter P.M. Peak Hour	Enter	+30
	Exit	+30
	Surrounding Roadways	N/A

The distribution of the anticipated new vehicle trips by direction was based upon the existing trip patterns observed in the traffic count data and the anticipated usage of the roadways for the school. The anticipated increase in trips from the proposed school building was added to the existing volumes, which were adjusted with the growth rate for the anticipated opening (build) date of 2024, for analysis of the build conditions. The trip generation calculations and distribution of the traffic of the increased traffic anticipated by the development are shown in Appendix B.



2.4 Capacity Analysis General Information

Capacity analyses in this report focus on the peak hours of traffic volume for the high school, because they represent the most critical periods for operations and have the highest capacity requirements. It is expected that there will be minimal impact from the school during the remaining hours of the day.

The intersection capacity analysis was prepared using the Highway Capacity Manual (HCM), 2016 edition, published by the Transportation Research Board. The analysis utilizes the concept of Level of Service. The term “level of service” is defined as a qualitative measure describing operational conditions within a traffic stream based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. There are six levels of service utilized for the analysis. They are given letter designations from A to F, with Level of Service A representing the most favorable operating conditions and Level of Service F the least. Level of Service F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay. The level of service criteria for both unsignalized and signalized intersections is shown in Table No. 3.

Table No. 3
Level of Service Criteria for Unsignalized and Signalized Intersections
Source: Highway Capacity Manual, 2016

Level Of Service	Average Total Delay (Second/Vehicle)	
	Unsignalized Intersection	Signalized Intersection
A	≤ 10	≤ 10
B	$>10 \text{ and } \leq 15$	$>10 \text{ and } \leq 20$
C	$>15 \text{ and } \leq 25$	$>20 \text{ and } \leq 35$
D	$>25 \text{ and } \leq 35$	$>35 \text{ and } \leq 55$
E	$>35 \text{ and } \leq 50$	$>55 \text{ and } \leq 80$
F	>50	>80

The computer software, Synchro10, was utilized to perform the capacity analysis for the study area.

The capacity analysis computations for the various alternatives discussed in the subsequent sections of this report are included in Appendix C. Summaries of the level of service (LOS) for the various capacity analysis alternatives have been included in applicable tables listed in subsequent sections of this report.



3.0 Site Driveway Configuration Alternatives

Based on discussions with the Town and the design team, it was requested that the school site traffic be evaluated with two different driveway configuration alternatives, see Figure No. 2. As previously discussed in Section 1.2, the one-way Carey Drive loop driveway will be eliminated in the proposed layout.



Figure No. 2 Proposed Driveway Alternatives

3.1 Two Driveway Configuration Alternative

The two driveway configuration alternative will be similar to the existing conditions where the site driveways will be accessible through Schouler Court and Mill Brook Drive. The two proposed driveways will differ from the existing conditions, however, because it is anticipated that the two driveways will be connected internally on the site, which is unlike the gated condition that is present on the existing narrow driveway around the school. Since an improved internal connection is proposed for the site, it is assumed that 50-percent of the entering and exiting school traffic will access the

Schouler Court driveway and the remaining traffic will access the Mill Brook Drive driveway. The capacity analysis of this configuration alternative is further discussed in Section 3.3.

3.2 Three Driveway Configuration Alternative

The three driveway configuration alternative will continue to have site driveways that are accessible through Schouler Court and Mill Brook Drive, but will also have a third driveway access to Grove Street. The Grove Street driveway is anticipated to be located approximately where the existing southern Department of Public Works (DPW)/Town parking lot driveway is located. Similar to the two driveway configuration, it is assumed that this alternative's entering and exiting school traffic will access all three driveways equally. The capacity analysis of this configuration alternative is further discussed in Section 3.3.

3.3 Capacity Analysis Comparison

Unsignalized Capacity Analysis

Unsignalized intersection capacity analysis was undertaken for the intersections of Summer Street and Grove Street; Mill Street, Mill Brook Drive, and the Millbrook Square driveway; Massachusetts Avenue and Carey Drive; Massachusetts Avenue and Grove Street; and Grove Street and the southern Department of Public Works (DPW)/Town parking lot driveway using the school A.M. and school P.M. peak hours under future no-build conditions, as well as the future build conditions for both driveway alternatives. A summary of the level of service for these intersections is shown in Table Nos. 4 and 5 during the school A.M. and school P.M. peak hour, respectively.



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Table No. 4
School A.M. Peak Hour - Level of Service Summary
Unsignalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	No-Build (2024)	Build (2024) 2 Driveway Alternative	Build (2024) 3 Driveway Alternative
Summer Street/Grove Street			
Northbound Approach	F (404.4)	F (525.3)	F (*)
Westbound Approach	A (4.4)	A (4.7)	A (7.2)
Mill Street/Mill Brook Drive/Millbrook Square Driveway			
Northbound Approach	A (3.6)	A (4.4)	A (3.5)
Southbound Approach	A (0.1)	A (0.1)	A (0.1)
Eastbound Approach	F (58.7)	F (409.0)	F (94.6)
Westbound Approach	C (17.8)	D (25.0)	C (18.0)
Massachusetts Avenue/Carey Drive			
Eastbound Approach	A (1.4)	N/A	N/A
Massachusetts Avenue/Grove Street			
Southbound Approach	F (507.8)	F (664.0)	F (858.9)
Eastbound Approach	A (1.8)	A (1.7)	A (2.1)
Grove Street/DPW Driveway			
Southbound Approach	A (0.6)	A (0.6)	A (3.0)
Westbound Approach	B (13.0)	B (13.3)	D (32.4)

*Delay exceeds capacity.

Table No. 5
School P.M. Peak Hour - Level of Service Summary
Unsignalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	No-Build (2024)	Build (2024) 2 Driveway Alternative	Build (2024) 3 Driveway Alternative
Summer Street/Grove Street			
Northbound Approach	F (162.9)	F (239.9)	F (318.4)
Westbound Approach	A (2.5)	A (2.6)	A (2.9)
Mill Street/Mill Brook Drive/Millbrook Square Driveway			
Northbound Approach	A (1.9)	A (2.4)	A (1.9)
Southbound Approach	A (0.1)	A (0.1)	A (0.1)
Eastbound Approach	F (71.5)	F (148.6)	F (65.1)
Westbound Approach	C (24.1)	D (30.3)	D (25.0)
Massachusetts Avenue/Carey Drive			
Eastbound Approach	A (0.8)	N/A	N/A
Massachusetts Avenue/Grove Street			
Southbound Approach	F (230.7)	F (322.0)	F (657.0)
Eastbound Approach	A (1.8)	A (1.9)	A (2.6)
Grove Street/DPW Driveway			
Southbound Approach	A (0.3)	A (0.3)	A (1.1)
Westbound Approach	B (13.9)	B (14.3)	C (19.2)



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The unsignalized intersection capacity analysis shows that the levels of service will remain the same at the intersection of Summer Street and Grove Street during the school A.M. and school P.M. peak hours, with an increase in delay on the Grove Street (northbound) approach for both alternatives.

The level of service for the westbound approach at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway will change from LOS C to LOS D, during the school A.M. and P.M. peak hours for the two driveway alternative. The westbound approach changes from LOS C to LOS D, during the school P.M. peak hour for the three driveway alternative. The eastbound approach will operate at LOS F with a large increase in delay during the school A.M. and school P.M. peak hours for the two driveway alternative.

Similar to the Summer Street and Grove Street intersection, the level of service will remain the same at the intersection of Massachusetts Avenue and Grove Street during the school A.M. and school P.M. peak hours, with an increase in delay on the Grove Street (southbound) approach for both alternatives.

The level of service for the westbound approach at the intersection of Grove Street and the DPW driveway will change from LOS B to LOS D and from LOS B to LOS C, during the school A.M. peak hour and the school P.M. peak hour, respectively, for the three driveway alternative.

Signalized Capacity Analysis

Signalized intersection capacity analysis for the intersections of Summer Street, Brattle Street, and Symmes Road; Summer Street, Mill Street, and Cutter Hill Road; Massachusetts Avenue, Mill Street, and Jason Street; Massachusetts Avenue at the signalized crosswalk, Massachusetts Avenue, Schouler Court, and Lockeland Avenue; and Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway was undertaken using the school A.M. and school P.M. peak hour traffic volumes under future no-build conditions, as well as the future build conditions for both driveway alternatives. A summary of the level of service for these intersections is shown in Table Nos. 6 and 7 during the school A.M. and school P.M. peak hour, respectively.



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Table No. 6
School A.M. Peak Hour - Level of Service Summary
Signalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	No-Build (2024)	Build (2024) 2 Driveway Alternative	Build (2024) 3 Driveway Alternative
Summer Street/Brattle Street/Symmes Road			
Northbound Approach	F (122.2)	F (132.0)	F (135.7)
Brattle SB Approach	D (43.1)	D (44.3)	D (44.8)
Eastbound Approach	C (25.6)	C (25.8)	C (26.4)
Symmes SB Approach	D (41.3)	D (42.2)	D (42.5)
Westbound Approach	F (97.3)	F (99.2)	F (99.7)
Summer Street/Mill Street/Cutter Hill Road			
Overall Intersection	D (38.1)	D (43.1)	D (41.4)
Northbound Approach	C (33.6)	D (38.6)	C (32.6)
Southbound Approach	D (38.5)	D (38.2)	D (37.7)
Eastbound Approach	D (47.3)	D (51.9)	E (57.0)
Westbound Approach	C (31.5)	D (39.0)	C (32.8)
Massachusetts Avenue/Mill Street/Jason Street			
Overall Intersection	E (57.6)	E (77.0)	E (63.1)
Northbound Approach	E (76.2)	E (79.1)	E (77.1)
Southbound Approach	E (63.3)	E (66.7)	E (64.8)
Eastbound Approach	D (36.0)	D (46.2)	D (38.1)
Westbound Approach	E (67.4)	F (113.2)	F (80.7)
Massachusetts Avenue/Signalized Crosswalk			
Overall Intersection	A (3.9)	A (4.0)	A (3.9)
Eastbound Approach	A (4.2)	A (3.8)	A (3.8)
Westbound Approach	A (3.4)	A (4.2)	A (4.0)
Massachusetts Avenue/Schouler Court/Lockeland Avenue			
Overall Intersection	C (27.3)	D (37.8)	C (21.4)
Northbound Approach	B (19.0)	C (20.1)	B (18.8)
Southbound Approach	C (29.1)	C (30.2)	C (23.9)
Eastbound Approach	C (30.2)	D (42.9)	C (20.1)
Westbound Approach	C (24.9)	D (39.5)	C (22.5)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway			
Overall Intersection	C (21.2)	C (22.3)	C (21.1)
Northbound Approach	D (37.7)	D (37.4)	D (36.1)
Southbound Approach	C (22.0)	C (22.0)	C (21.5)
Eastbound Approach	C (21.3)	C (23.5)	C (21.4)
Westbound Approach	B (14.3)	B (14.8)	B (14.8)



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Table No. 7
School P.M. Peak Hour - Level of Service Summary
Signalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	No-Build (2024)	Build (2024) 2 Driveway Alternative	Build (2024) 3 Driveway Alternative
Summer Street/Brattle Street/Symmes Road			
Northbound Approach	E (62.8)	E (64.2)	E (63.6)
Brattle SB Approach	D (37.6)	D (38.2)	D (38.0)
Eastbound Approach	C (28.5)	C (28.7)	C (28.8)
Symmes SB Approach	D (44.5)	D (45.2)	D (44.8)
Westbound Approach	F (94.6)	F (96.2)	F (95.4)
Summer Street/Mill Street/Cutter Hill Road			
Overall Intersection	C (26.9)	C (28.0)	C (27.2)
Northbound Approach	C (28.9)	C (30.4)	C (29.4)
Southbound Approach	C (25.8)	C (26.4)	C (26.0)
Eastbound Approach	C (30.6)	C (30.8)	C (30.7)
Westbound Approach	C (21.8)	C (23.6)	C (22.2)
Massachusetts Avenue/Mill Street/Jason Street			
Overall Intersection	D (37.2)	D (41.2)	D (39.5)
Northbound Approach	D (51.2)	E (56.6)	E (55.3)
Southbound Approach	D (46.6)	D (51.9)	D (51.7)
Eastbound Approach	C (30.9)	C (33.4)	C (31.9)
Westbound Approach	C (34.6)	D (38.9)	D (36.6)
Massachusetts Avenue/Signalized Crosswalk			
Overall Intersection	A (4.0)	A (4.0)	A (4.0)
Eastbound Approach	A (4.4)	A (4.3)	A (4.4)
Westbound Approach	A (3.4)	A (3.6)	A (3.6)
Massachusetts Avenue/Schouler Court/Lockeland Avenue			
Overall Intersection	B (16.0)	B (19.2)	B (16.3)
Northbound Approach	B (17.8)	B (17.2)	B (18.7)
Southbound Approach	B (18.8)	C (20.3)	B (18.3)
Eastbound Approach	B (16.8)	B (19.5)	B (16.1)
Westbound Approach	B (13.9)	B (18.9)	B (15.6)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway			
Overall Intersection	B (18.3)	B (19.3)	B (19.1)
Northbound Approach	C (23.7)	C (26.8)	C (26.3)
Southbound Approach	B (16.3)	B (17.4)	B (17.1)
Eastbound Approach	B (17.8)	B (19.0)	B (17.6)
Westbound Approach	B (17.3)	B (17.5)	B (18.4)

The signalized intersection capacity analysis shows that the levels of service will remain the same at the intersections of Summer Street, Brattle Street, and Symmes Road; Massachusetts Avenue, Highland Avenue, and the Stop & Shop Driveway; as well as the intersection of Massachusetts Avenue with the signalized crosswalk during the school A.M. and school P.M. peak hours for both driveway alternatives.



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At the intersection of Summer Street, Mill Street, and Cutter Hill Road, the northbound and westbound approaches change from LOS C to LOS D, during the school A.M. peak hour for the two driveway alternative. The eastbound approach changes from LOS D to LOS E, during the school A.M. peak hour for the three driveway alternative. The levels of service will remain the same during the school P.M. peak hour for both driveway alternatives.

At the intersection of Massachusetts Avenue, Mill Street, and Jason Street, the westbound approach changes from LOS E to LOS F during the school A.M. peak hour for both driveway alternatives. The northbound approach changes from LOS D to LOS E and the westbound approach changes from LOS C to LOS D during the school P.M. peak hour for both driveway alternatives.

At the intersection of Massachusetts Avenue, Schouler Court, and Lockeland Avenue, the northbound approach changes from LOS B to LOS C, and the eastbound and westbound approaches change from LOS C to LOS D, during the school A.M. peak hour for the two driveway alternative. The southbound approach will change from LOS B to LOS C during the school P.M. peak hour for the two driveway alternative. The levels of service will remain the same during the school A.M. and school P.M. peak hours for the three driveway alternative.

3.4 Preferred Traffic Circulation Considerations

The two driveway configuration alternative anticipates that the majority of the traffic volume generated by the school will be concentrated on Schouler Court via Massachusetts Avenue and Mill Brook Drive via Mill Street (and by extension Summer Street and Massachusetts Avenue). The three driveway configuration alternative will reduce the demands anticipated for Schouler Court and Mill Brook Drive by shifting a portion of the anticipated traffic volume to Grove Street, which will add volumes to the already congested unsignalized intersections at either end of Grove Street. Both alternatives will require the Town to consider what type of intersection improvements/investments are more desirable and appropriate to the Town as a whole.

The capacity analysis comparison indicates the unsignalized Mill Brook Drive (eastbound) approach at its intersection with Mill Street will operate poorly under future no-build conditions and will only deteriorate with the additional traffic volume anticipated by the proposed high school, especially under the two driveway configuration alternative. Regardless of which alternative is pursued, the Town should consider the installation of a new traffic signal at the intersection of Mill Street and Mill Brook Drive. The signalized capacity analysis comparison for the intersection of Massachusetts Avenue, Mill Street, and Jason Street indicates poor operations under future build conditions for both driveway configuration alternatives and may benefit from retiming. Additional discussion about the Mill Street corridor can be found in Section 4.0.

The capacity analysis comparison indicates the unsignalized Grove Street approaches at both ends will operate at poor levels of service under future no-build conditions and will decline with the additional traffic volume anticipated by the proposed high school, especially under the three driveway configuration alternative. Regardless of which alternative is pursued, but especially the three driveway



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configuration alternative, the Town should consider the installation of new traffic signals at both ends of Grove Street. Additional discussion about the Grove Street corridor can be found in Section 5.0.

The signalized capacity analysis comparison anticipates an increase in delay under future build conditions for the two driveway configuration alternative for the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection during the school A.M. peak hour, although the levels of service will still be at acceptable levels. The intersection, however, may benefit from signal retiming. Additional discussion about the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection can be found in Section 6.0.

4.0 Mill Street Corridor Analysis

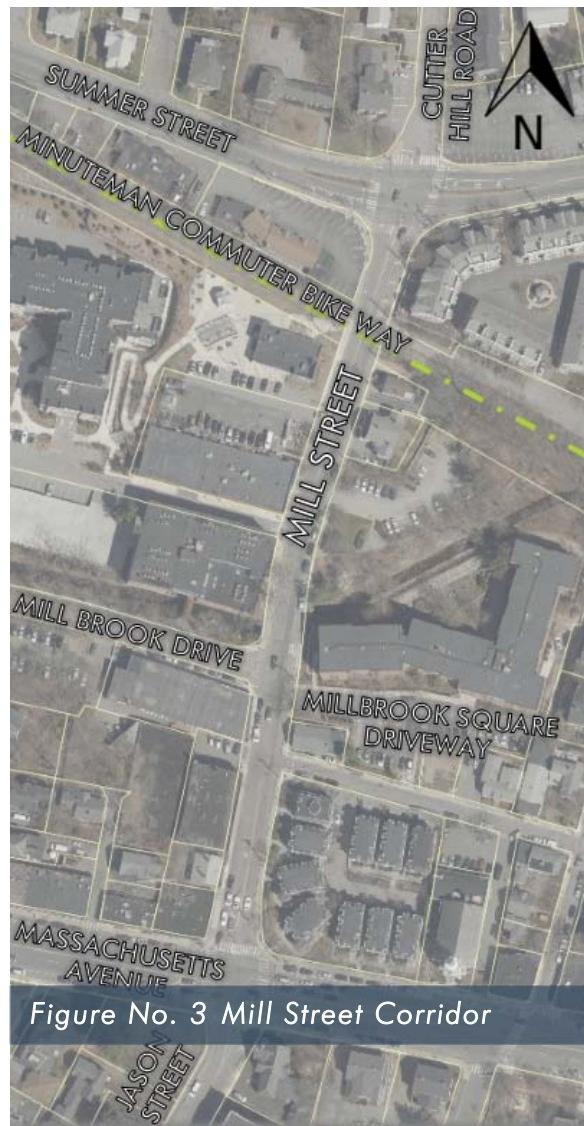
The Town requested a corridor analysis of Mill Street be undertaken to analyze impacts of queuing at its intersections with both Massachusetts Avenue and Summer Street, see Figure No. 3. As discussed in Section 1.3, additional data has been collected at the Minuteman Commuter Bike Way and at the three originally analyzed intersections within the Mill Street corridor study area, including traffic data during the commuter P.M. peak hour.

4.1 Capacity Analysis

Based on the results presented in Section 3, the anticipated traffic volumes from the two school driveway configuration alternative will likely have a greater impact on the Mill Street corridor. Therefore, the two driveway configuration alternative traffic volumes have been utilized for the Mill Street Corridor Analysis.

4.1.1 Future No-Build – Commuter P.M. Peak Hour

As requested, additional capacity analysis was undertaken at the intersections of Summer Street, Mill Street, and Cutter Hill Road; Mill Street, Mill Brook Drive, and the Millbrook Square driveway; and Massachusetts Avenue, Mill Street, and Jason Street during the commuter P.M. peak hour under future no-build conditions.



Unsignalized Capacity Analysis

Unsignalized intersection capacity analysis was undertaken for the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway using the commuter P.M. peak hour under future no-build conditions. A summary of the level of service for this intersection is shown in Table No. 8 during the commuter P.M. peak hour.

Table No. 8
Commuter P.M. Peak Hour - Level of Service Summary
Unsignalized Intersection

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)
	No-Build (2024)
Mill Street/Mill Brook Drive/Millbrook Square Driveway	
Northbound Approach	A (1.0)
Southbound Approach	A (0.1)
Eastbound Approach	F (86.7)
Westbound Approach	C (23.4)

The unsignalized intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway operates at similar levels of service during the commuter P.M. peak hour as anticipated operations during the school A.M. and school P.M. peak hours under future no-build conditions.

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Signalized Capacity Analysis

Signalized intersection capacity analysis was undertaken for the intersections of Summer Street, Mill Street, and Cutter Hill Road; and Massachusetts Avenue, Mill Street, and Jason Street using the commuter P.M. peak hour under future no-build conditions. A summary of the level of service for these intersections is shown in Table No. 9 during the commuter P.M. peak hour.

Table No. 9
Commuter P.M. Peak Hour - Level of Service Summary
Signalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)
	No-Build (2024)
Summer Street/Mill Street/Cutter Hill Road	
Overall Intersection	C (25.0)
Northbound Approach	C (28.1)
Southbound Approach	C (23.2)
Eastbound Approach	C (28.9)
Westbound Approach	B (18.5)
Massachusetts Avenue/Mill Street/Jason Street	
Overall Intersection	D (50.7)
Northbound Approach	E (59.9)
Southbound Approach	E (62.4)
Eastbound Approach	D (41.7)
Westbound Approach	D (48.8)

The intersection of Summer Street, Mill Street, and Cutter Hill Road operates at slightly better levels of service during the commuter P.M. peak hour than during the school P.M. peak hour. The intersection of Massachusetts Avenue, Mill Street, and Jason Street operates at slightly worse levels of service during the commuter P.M. peak hour than during the school P.M. peak hour.

Refer to Section 3.3 for the unsignalized and signalized intersection capacity analysis for these locations during the school A.M. and school P.M. peak hours under future no-build conditions.

4.1.2 Minuteman Commuter Bike Way at Mill Street

As requested, additional capacity analysis was also undertaken at the intersection of the Minuteman Commuter Bike Way and Mill Street during the school A.M. peak hour, school P.M. peak hour, and commuter P.M. peak hour under future no-build and build conditions for the two-driveway alternative. A summary of the level of service at the bike way intersection under future no-build and build conditions is shown in Table Nos. 10 and 11, respectively.



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Table No. 10
Minuteman Commuter Bike Way at Mill Street – Level of Service Summary
Future No Build

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	School A.M. Peak	School P.M. Peak	Commuter P.M. Peak
Overall Intersection	A (1.3)	A (1.1)	A (1.4)
Northbound Approach	A (1.1)	A (1.1)	A (1.6)
Southbound Approach	A (1.4)	A (1.1)	A (1.0)

Table No. 11
Minuteman Commuter Bike Way at Mill Street – Level of Service Summary
Two Driveway Alternative – Future Build (2024)

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	School A.M. Peak 2 Driveway Alternative	School P.M. Peak 2 Driveway Alternative	Commuter P.M. Peak 2 Driveway Alternative
Overall Intersection	A (1.4)	A (1.2)	A (1.4)
Northbound Approach	A (1.1)	A (1.2)	A (1.6)
Southbound Approach	A (1.6)	A (1.1)	A (1.1)

The signalized intersection capacity analysis shows that the levels of service will remain the same at the Minuteman Commuter Bike Way and Mill Street intersection during the peak hours under both future no-build and future build conditions.

4.1.3 Future Build

Due to the poor levels of service under future build conditions at the unsignalized intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway (see discussion in Sections 3.3 and 3.4), mitigation to the intersection has been investigated. It was determined that signalization of the intersection would improve operations and should be considered. The potential signalization of this intersection has been analyzed as part of the Mill Street Corridor Analysis under future build conditions.

Along with the potential signalization of the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway, mitigation has also been investigated at the existing adjacent signalized intersection of Massachusetts Avenue, Mill Street, and Jason Street. It was determined that retiming of this existing traffic signal during the peak hours would improve operations and should be considered. The signal retiming mitigation at the Massachusetts Avenue, Mill Street, and Jason Street intersection includes adding a left turn phase for the southbound approach of Mill Street, which will also require signal equipment updates to implement this additional phase. Additional mitigation to provide possible coordination between the potential signal at Mill Brook Drive and the existing retimed traffic signal at the Massachusetts Avenue has also been investigated for the impacts to the levels of service and queues.

As shown in Section 3.3, the overall signalized intersection of Summer Street, Mill Street, and Cutter Hill Road is anticipated to operate at acceptable levels of service during the school A.M. and school



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P.M. peak hours under future build conditions for the two driveway configuration alternative traffic volumes. The delays for all the approaches are well distributed during these peak hours and the preliminary retiming mitigation analysis did not result in significant delay reductions for the individual approaches, nor the overall intersection, therefore signal retiming was not pursued at this intersection.

Signalized Capacity Analysis

Signalized intersection capacity analysis for the intersections of Mill Street, Mill Brook Drive, and the Millbrook Square driveway; and Massachusetts Avenue, Mill Street, and Jason Street was undertaken during the school A.M., school P.M., and commuter peak hours with mitigation under future build conditions using the two driveway configuration alternative traffic volumes. A summary of the level of service for these intersections is shown in Table Nos. 12, 13, and 14 during the school A.M., school P.M., and commuter peak hour, respectively.

Table No. 12
School A.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation- Coordination
Mill Street/Mill Brook Drive/Millbrook Square Driveway			
Overall Intersection	Unsignalized F (78.9)	Signalized B (18.3)	Signalized C (24.5)
Northbound Approach	A (4.4)	B (16.9)	C (20.1)
Southbound Approach	A (0.1)	B (16.1)	B (17.8)
Eastbound Approach	F (409.0)	C (26.9)	D (50.9)
Westbound Approach	D (25.0)	A (7.4)	A (6.3)
Massachusetts Avenue/Mill Street/Jason Street			
Overall Intersection	E (77.0)	D (41.5)	D (41.7)
Northbound Approach	E (79.1)	E (57.5)	E (70.8)
Southbound Approach	E (66.7)	C (35.0)	D (39.5)
Eastbound Approach	D (46.2)	C (25.3)	C (26.0)
Westbound Approach	F (113.2)	E (55.7)	D (27.2)



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Table No. 13
School P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation- Coordination
Mill Street/Mill Brook Drive/Millbrook Square Driveway			
Overall Intersection	Unsignalized D (34.0)	Signalized B (12.8)	Signalized B (12.4)
Northbound Approach	A (2.4)	B (13.1)	B (12.3)
Southbound Approach	A (0.1)	A (9.9)	A (8.6)
Eastbound Approach	F (148.6)	B (17.9)	C (20.0)
Westbound Approach	D (30.3)	A (6.9)	A (15.2)
Massachusetts Avenue/Mill Street/Jason Street			
Overall Intersection	D (41.2)	C (28.0)	C (28.7)
Northbound Approach	E (56.6)	D (38.5)	D (47.9)
Southbound Approach	D (51.9)	B (17.9)	C (28.2)
Eastbound Approach	C (33.4)	C (28.7)	C (24.2)
Westbound Approach	D (38.9)	C (29.9)	C (28.9)

Table No. 14
Commuter P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation- Coordination
Mill Street/Mill Brook Drive/Millbrook Square Driveway			
Overall Intersection	Unsignalized E (41.0)	Signalized B (13.8)	Signalized B (17.3)
Northbound Approach	A (1.3)	B (14.4)	C (20.9)
Southbound Approach	A (0.1)	A (8.2)	A (7.5)
Eastbound Approach	F (196.8)	C (21.5)	C (21.5)
Westbound Approach	D (26.8)	A (6.0)	A (4.9)
Massachusetts Avenue/Mill Street/Jason Street			
Overall Intersection	D (54.1)	D (36.8)	D (49.1)
Northbound Approach	E (63.4)	D (48.4)	D (37.4)
Southbound Approach	E (67.2)	C (29.8)	C (30.8)
Eastbound Approach	D (43.9)	C (30.8)	E (58.7)
Westbound Approach	D (52.3)	D (40.7)	E (56.7)

As anticipated, the potential traffic signal at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway indicates a significant reduction in delay for the Mill Brook Drive (eastbound) approach during the peak hours. The potential traffic signal at Mill Brook Drive will introduce interrupted flow along Mill Street (increase in delay and queues) that is not currently present in the corridor to allow better ingress and egress to Mill Brook Drive. The potential traffic signal will



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provide a more even distribution of delay to the various approaches than the unsignalized intersection scenario.

The Massachusetts Avenue, Mill Street, and Jason Street intersection operations will benefit greatly from signal retiming during the peak hours. The retiming includes the addition of a left turn phase for the Mill Street southbound approach, which already has a striped exclusive left turn lane.

Despite the improved level of services and reduction in delay with the potential signal paired with the retiming of the existing Massachusetts Avenue, Mill Street, and Jason Street traffic signal, the 95th percentile queues for the Mill Street southbound approach are anticipated to extend past Mill Brook Drive during the school A.M. peak hour (see Appendix C for queue lengths). The coordination between the potential signal at Mill Brook Drive and the existing traffic signal at the Massachusetts Avenue intersection indicates the 95th percentile queue lengths during the school A.M. peak hour will be reduced, although it will still extend past Mill Brook Drive.

The capacity analysis indicates that the 95th percentile queues will not extend to the potential traffic signal at Mill Brook Drive during the school P.M. peak hour. The capacity analysis indicates similar delays and 95th percentile queues when the two signals are coordinated during the school P.M. peak hour.

The capacity analysis indicates that the 95th percentile queues will not extend to the potential traffic signal at Mill Brook Drive during the commuter P.M. peak hour. The capacity analysis indicates slightly worse delays when the two signals are coordinated and that there is a potential for the 95th percentile queues from the Mill Street northbound approach at Mill Brook Drive will extend past Massachusetts Avenue under the coordinated scenario.

Based on this initial review of potential mitigation options, it is not recommended to coordinate the potential traffic signal at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway and the existing traffic signal at the intersection of Massachusetts Avenue, Mill Street, and Jason Street.



5.0 Grove Street Corridor Analysis

The Town requested a corridor analysis of Grove Street be undertaken to analyze impacts of queuing at its intersections with both Massachusetts Avenue and Summer Street in conjunction with adjacent existing signalized intersections, see Figure Nos. 4 and 5. As discussed in Section 1.3, additional data has been collected on Grove Street at its intersection with both Massachusetts Avenue and Summer Street, during the commuter P.M. peak hour. Data has also been collected at the signalized intersection of Summer Street, Brattle Street, and Symmes Road and at the signalized intersection of Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway during the school A.M., school P.M., and commuter P.M. peak hours.

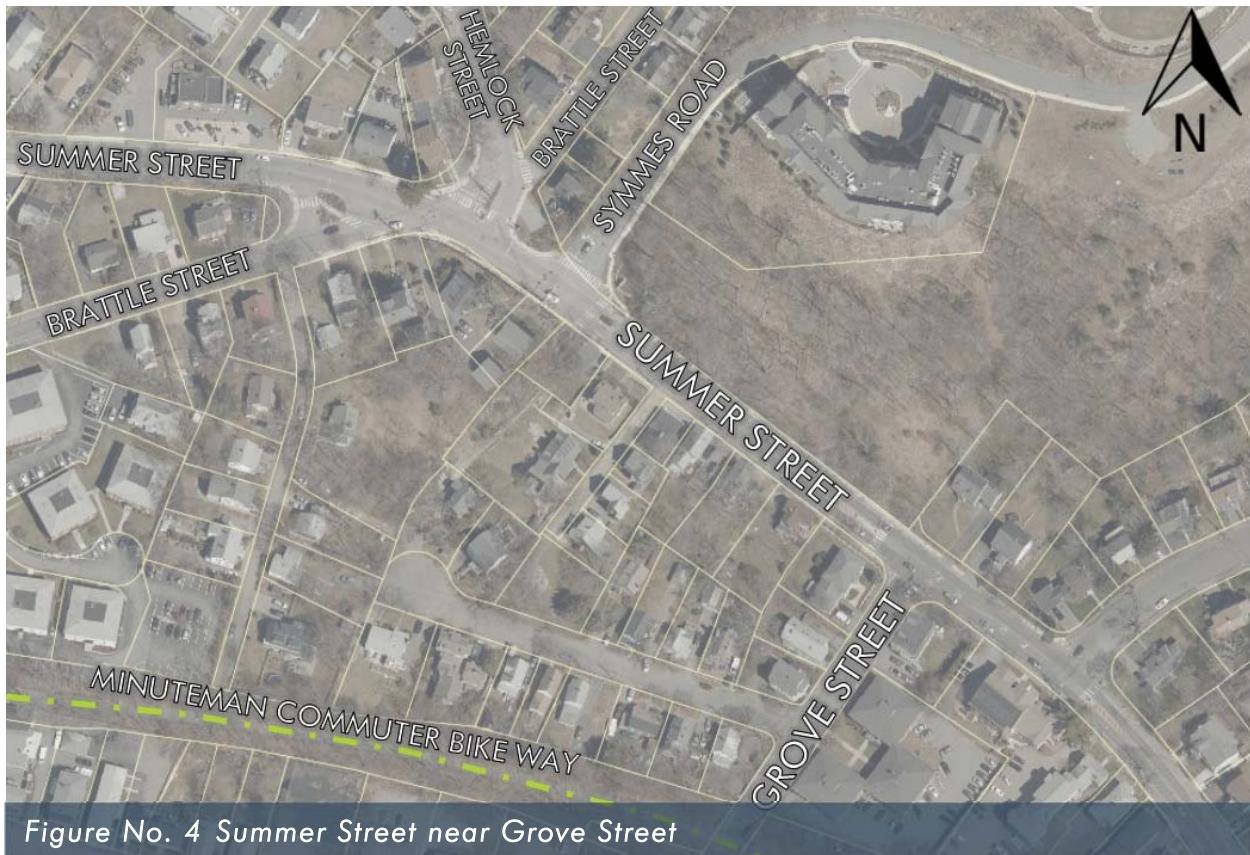


Figure No. 4 Summer Street near Grove Street



5.1 Capacity Analysis

Based on the results presented in Section 3, the anticipated traffic volumes from the three school driveway configuration alternative will likely have a greater impact on the Grove Street corridor. Therefore, the three driveway configuration alternative traffic volumes have been utilized for the Grove Street Corridor Analysis.

5.1.1 Future No-Build

Unsignalized Capacity Analysis

As requested, additional unsignalized capacity analysis was undertaken at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street during the commuter P.M. peak hour under future no-build conditions. A summary of the level of service for these intersections under future no-build conditions is shown in Table No. 15 during the commuter P.M. peak hour.

Table No. 15
Commuter P.M. Peak Hour - Level of Service Summary
Unsignalized Intersections

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)
	No-Build (2024)
Summer Street/Grove Street	
Northbound Approach	F (277.8)
Westbound Approach	A (1.9)
Massachusetts Avenue/Grove Street	
Southbound Approach	F (576.8)
Eastbound Approach	A (3.3)

The unsignalized intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street operate at LOS F for their respective Grove Street approaches during the commuter P.M. peak hour, similar to the Grove Street approaches during the school A.M. and school P.M. peak hours (refer to Section 3.3) under future no-build conditions.

Signalized Capacity Analysis

Additional signalized capacity analysis was also undertaken at the adjacent intersections of Summer Street, Brattle Street, and Symmes Road; and Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway during the commuter P.M. peak hour under future no-build conditions. A summary of the level of service for these intersections is shown in Table No. 16 during the commuter P.M. peak hour.

Table No. 16
Commuter P.M. Peak Hour - Level of Service Summary
Signalized Intersections

Intersection/ Critical Movement	Level of Service (Delay- Second/Vehicle)
	No-Build (2024)
Summer Street/Brattle Street/Symmes Road	
Northbound Approach	F (182.9)
Brattle SB Approach	D (40.8)
Eastbound Approach	D (35.8)
Symmes SB Approach	D (48.3)
Westbound Approach	F (106.2)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway	
Overall Intersection	E (59.6)
Northbound Approach	F (161.9)
Southbound Approach	C (29.0)
Eastbound Approach	C (29.5)
Westbound Approach	C (24.5)



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The cluster intersection of Summer Street, Brattle Street, and Symmes Road operates at slightly worse levels of service during the commuter P.M. peak hour than during the school P.M. peak hour. The intersection of Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway operates at worse levels of service during the commuter P.M. peak hour than during the school A.M. and school P.M. peak hours.

Refer to Section 3.3 for the capacity analysis for the signalized intersections of Summer Street, Brattle Street, and Symmes Road; and Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway during the school A.M. and school P.M. peak hours under future no-build conditions.

5.1.2 Traffic Signal Warrants

The Town requested that signal warrant analyses be performed for the two unsignalized intersections of Summer Street and Grove Street, and Massachusetts Avenue and Grove Street. The traffic signal warrant analysis was conducted under future no-build conditions.

The Manual on Uniform Traffic Control Devices (MUTCD) contains nine traffic signal warrants that are used to aid in the decision whether a traffic signal should be considered at an intersection.

The traffic volumes counted at these intersections indicate that both intersections would meet Warrant 1 - Eight Hour Vehicular Volume, Warrant 2 - Four-Hour Vehicular Volume, Warrant 3 - Peak Hour, and Warrant 7 - Crash Experience under future no-build conditions.

The analysis also indicates that the intersection of Summer Street and Grove Street would meet the optional definition in Warrant 5 – School Crossing.

Four other warrants: Warrant 4 - Pedestrian Volume, Warrant 6 - Coordinated Signal System, Warrant 8 - Roadway Network, and Warrant 9 - Intersection Near a Grade Crossing, are not met or are not applicable for both intersections. See Appendix F for the warrant analysis worksheets for these intersections.

The potential signalization of the Summer Street and Grove Street and the Massachusetts Avenue and Grove Street intersections have been analyzed as part of the Grove Street Corridor Analysis under future build conditions, see Section 5.1.3.

5.1.3 Future Build

Due to the poor levels of service under both future no-build conditions and future build conditions at the unsignalized intersections of Grove Street, along with both these intersections meeting traffic signal warrants under future no-build conditions, the potential signalization of the Grove Street intersections has been analyzed as part of the Grove Street Corridor Analysis under future build conditions. The capacity analysis of the potential signal at the Massachusetts Avenue and Grove Street intersection also includes the restriping of the eastbound approach of Massachusetts Avenue to add a left turn lane.



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Along with the potential signalization at both termini of Grove Street, mitigation has also been investigated at the nearest existing signalized intersections on Summer Street, as well as at the nearest existing signalized intersection on Massachusetts Avenue. The mitigation involved the investigation of retiming the existing traffic signals during the peak hours for the intersections of Summer Street, Brattle Street, and Symmes Road; and Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway. Additional mitigation of possible coordination between the potential Grove Street signals and the applicable existing retimed traffic signals has also been investigated to determine the impacts to the levels of service and queues.

Signalized Capacity Analysis

Signalized intersection capacity analysis for the intersections of Summer Street and Grove Street; Summer Street, Brattle Street, and Symmes Road; Massachusetts Avenue and Grove Street; and Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway was undertaken during the school A.M., school P.M., and commuter peak hours with mitigation under future build conditions using the three driveway configuration alternative traffic volumes. A summary of the level of service for these intersections is shown in Table Nos. 17, 18, and 19 during the school A.M., school P.M., and commuter peak hour, respectively.



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Table No. 17
School A.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 3 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Summer Street/Brattle Street/Symmes Road			
Northbound Approach	F (135.7)	F (138.8)	F (210.7)
Brattle SB Approach	D (44.8)	D (45.7)	E (58.0)
Eastbound Approach	C (26.4)	F (106.1)	F (155.1)
Symmes SB Approach	D (42.5)	D (44.4)	D (35.4)
Westbound Approach	F (99.7)	F (183.4)	F (288.2)
Summer Street/Grove Street			
Overall Intersection	Unsignalized F (229.4)	Signalized D (41.1)	Signalized C (33.8)
Northbound Approach	F (1628.1)	E (70.8)	F (129.6)
Eastbound Approach	N/A	D (39.0)	B (16.3)
Westbound Approach	A (7.2)	C (34.0)	C (20.1)
Massachusetts Avenue/Grove Street			
Overall Intersection	Unsignalized F (233.0)	Signalized C (20.0)	Signalized C (21.0)
Southbound Approach	F (858.9)	C (20.2)	D (40.7)
Eastbound Approach	A (2.1)	B (19.8)	B (15.5)
Westbound Approach	N/A	C (20.1)	B (11.5)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway			
Overall Intersection	C (21.1)	C (20.5)	C (22.7)
Northbound Approach	D (36.1)	D (36.1)	E (78.7)
Southbound Approach	C (21.5)	C (23.1)	C (32.0)
Eastbound Approach	C (21.4)	C (21.0)	B (13.5)
Westbound Approach	B (14.8)	B (13.6)	B (13.4)



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Table No. 18
School P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 3 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Summer Street/Brattle Street/Symmes Road			
Northbound Approach	E (63.6)	F (163.5)	F (220.1)
Brattle SB Approach	D (38.0)	E (59.3)	E (71.9)
Eastbound Approach	C (28.8)	E (65.2)	F (83.5)
Symmes SB Approach	D (44.8)	E (55.3)	D (40.4)
Westbound Approach	F (95.4)	F (153.5)	F (175.4)
Summer Street/Grove Street			
Overall Intersection	Unsignalized F (68.5)	Signalized B (17.7)	Signalized C (23.5)
Northbound Approach	F (318.4)	C (26.4)	C (34.6)
Eastbound Approach	N/A	C (23.1)	C (35.0)
Westbound Approach	A (2.9)	A (8.7)	A (8.1)
Massachusetts Avenue/Grove Street			
Overall Intersection	Unsignalized F (116.4)	Signalized B (15.9)	Signalized B (13.1)
Southbound Approach	F (657.0)	B (18.6)	D (35.9)
Eastbound Approach	A (2.6)	B (11.9)	A (9.0)
Westbound Approach	N/A	B (18.6)	A (7.5)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway			
Overall Intersection	B (19.1)	B (18.5)	B (16.9)
Northbound Approach	C (26.3)	C (26.7)	D (37.6)
Southbound Approach	B (17.1)	B (15.0)	B (17.8)
Eastbound Approach	B (17.6)	B (17.2)	B (11.2)
Westbound Approach	B (18.4)	B (17.5)	B (14.7)



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Table No. 19
Commuter P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 3 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Summer Street/Brattle Street/Symmes Road			
Northbound Approach	F (185.9)	F (260.0)	F (345.5)
Brattle SB Approach	D (40.9)	D (52.0)	E (61.1)
Eastbound Approach	D (36.2)	F (146.1)	F (222.1)
Symmes Approach	D (48.3)	E (56.6)	D (42.2)
Westbound Approach	F (105.9)	F (151.0)	F (182.0)
Summer Street/Grove Street			
Overall Intersection	Unsignalized F (65.4)	Signalized B (18.2)	Signalized C (24.3)
Northbound Approach	F (313.8)	C (22.7)	F (80.1)
Eastbound Approach	N/A	C (24.9)	B (12.6)
Westbound Approach	A (2.0)	A (8.7)	A (7.0)
Massachusetts Avenue/Grove Street			
Overall Intersection	Unsignalized F (94.1)	Signalized B (13.6)	Signalized B (14.6)
Southbound Approach	F (744.3)	C (24.1)	D (51.1)
Eastbound Approach	A (3.4)	B (12.9)	A (9.1)
Westbound Approach	N/A	B (11.2)	A (8.8)
Massachusetts Avenue/Highland Avenue/Stop & Shop Driveway			
Overall Intersection	E (65.4)	F (85.0)	E (56.4)
Northbound Approach	F (187.4)	F (186.5)	F (130.5)
Southbound Approach	C (29.6)	C (24.5)	C (25.2)
Eastbound Approach	C (29.3)	E (79.0)	D (37.5)
Westbound Approach	C (24.6)	C (31.5)	C (31.1)

As anticipated, the potential traffic signals at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street result in a significant reduction in delay for the Grove Street approaches during the peak hours. The potential traffic signals at the ends of Grove Street will introduce interrupted flow (increase in delay and queues) along Summer Street and Massachusetts Avenue that is not currently present on these roadways to allow better ingress and egress to Grove Street. The potential traffic signals will provide a more even distribution of delay at these intersections than the unsignalized intersection scenario.

Summer Street Termini Review

The retiming of the Summer Street, Brattle Street, and Symmes Road intersection does not indicate improved operations at this clustered signalized intersection. Westbound queues on Summer Street are anticipated to extend to the Grove Street intersection under future no-build conditions, as well as future build conditions, although retiming may reduce queues slightly. Coordination of the clustered



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intersection of Summer Street, Brattle Street, and Symmes Road with the potential signal at Summer Street and Grove Street does not show improved operations. Based on this initial review of potential mitigation options, it is not recommended to investigate the coordination of the potential traffic signal at the intersection of Summer Street and Grove Street and the existing traffic signal at the intersection of Summer Street, Brattle Street, and Symmes Road if the potential Summer Street and Grove Street traffic signal is pursued.

Massachusetts Avenue Termini Review

The retiming of the Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway intersection indicates similar levels of service as anticipated for future build conditions without retiming the signal, with the exception of the eastbound approach during the commute P.M. peak hour, which changes from LOS C to LOS E. Although the levels of service are similar with the retimed signal, the majority of the approaches are shown to have a reduction in the anticipated 95th percentile queue lengths (listed in Appendix C) when compared to 95th percentile queue lengths prior to signal retiming.

The capacity analysis indicates that the anticipated 95th percentile queue for the Massachusetts Avenue eastbound approach at the Highland Avenue traffic signal will extend past Grove Street even if the two traffic signals are coordinated during the school A.M. peak hour. The coordination of the potential Grove Street traffic signal with the existing Highland Avenue traffic signal will reduce the anticipated 95th percentile queue for the Massachusetts Avenue westbound approach at the Grove Street intersection by about half. Although the coordination will improve operations for the Massachusetts Avenue westbound approach at the Grove Street intersection, it will increase the anticipated Grove Street southbound approach 95th percentile queue by approximately four vehicles during the school A.M. peak hour.

The capacity analysis indicates that the anticipated 95th percentile queue for the Massachusetts Avenue eastbound approach at the Highland Avenue traffic signal will extend past Grove Street during the school P.M. peak hour. The capacity analysis for the coordination of these two signals indicates a reduction of the anticipated 95th percentile queue for the Massachusetts Avenue eastbound approach at the Highland Avenue traffic signal and the 95th percentile queue for Massachusetts Avenue westbound approach at Grove Street. The coordination will reduce the anticipated 95th percentile queue for the Massachusetts Avenue westbound approach at Grove Street such that the queue will not extend past the Highland Avenue intersection. The coordination of these signals will increase the anticipated 95th percentile queue for the Grove Street southbound approach by approximately three vehicles and increase the 95th percentile queue for the Highland Avenue northbound approach by approximately two vehicles.

Similar to the school A.M. peak hour, the capacity analysis indicates that the anticipated 95th percentile queue for the Massachusetts Avenue eastbound approach at the Highland Avenue traffic signal will extend past Grove Street even if the two traffic signals are coordinated during the commuter P.M. peak hour. The coordination of these two traffic signals will reduce the 95th percentile queue for the Massachusetts Avenue westbound approach at the Grove Street intersection so it no longer



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extends into the Highland Avenue intersection during the commuter P.M. peak hour. The coordination will increase the 95th percentile queue for both the Grove Street southbound approach and the Highland Avenue northbound approach by approximately one vehicle, as well as increase the 95th percentile queue for the Massachusetts Avenue westbound approach at the Highland Avenue intersection by about two vehicles and extend the queue into the Schouler Court intersection during the commuter P.M. peak hour.

Despite several of the approaches indicating a worse level of service under the coordinated scenario during the peak hours, the coordination of these signals show a reduction in the potential of queuing overlap between the intersections along the Massachusetts Avenue corridor. Based on this initial review of potential mitigation options, it is recommended to investigate the coordination of the potential traffic signal at the intersection of Massachusetts Avenue and Grove Street and the existing traffic signal at the intersection of Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway if the potential Massachusetts Avenue and Grove Street traffic signal is pursued.

6.0 Schouler Court and Massachusetts Avenue Considerations

The Town requested additional analysis be undertaken to investigate the impacts of different alternatives at the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection and the Massachusetts Avenue corridor adjacent to the high school site.

6.1 Schouler Court Signalization

6.1.1 Schouler Court Existing Signal Equipment

The Town has provided record traffic signal plans for the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection, which are included in Appendix E. It appears that the intersection was originally signalized in the 1960's. Although these plans indicate that this intersection was to be coordinated with the signalized crosswalk in front of the existing school (west of Churchill Avenue), the signals are not currently coordinated. There are pedestrian accommodations (pedestrian signal heads and buttons) for crossing Massachusetts Avenue on the east and west sides of the intersection, but not for crossing the side streets of Schouler Court and Lockeland Avenue. Unlike the plans, the intersection does have pedestrian heads and buttons across Massachusetts Avenue on the west side of the intersection.

Pertinent field observations regarding existing traffic signal operations and the signal controller cabinet components and condition, were conducted on November 22, 2019. It is evident that the Town has invested in this traffic signal through the years by replacing damaged equipment, such as pedestal poles, traffic signal heads, and signal head visors, etc., as well updating the signal controller equipment to an Eagle EPAC300 controller, installing emergency service preemption capabilities, etc.

Overall, the existing traffic signal equipment is in fair condition, although there are components that are in poor condition, e.g. peeling paint and rusting metal, that could benefit from replacement. The pedestrian button on the southeast corner does not appear to be working and requires maintenance. The pedestrian signal head on the northeast corner, which gives guidance to pedestrians waiting on the southeast corner, is improperly aligned and not fully visible to the waiting pedestrians it assists, see Figure No. 6. The pedestrian head should be realigned to provide better visibility to the southeast corner.

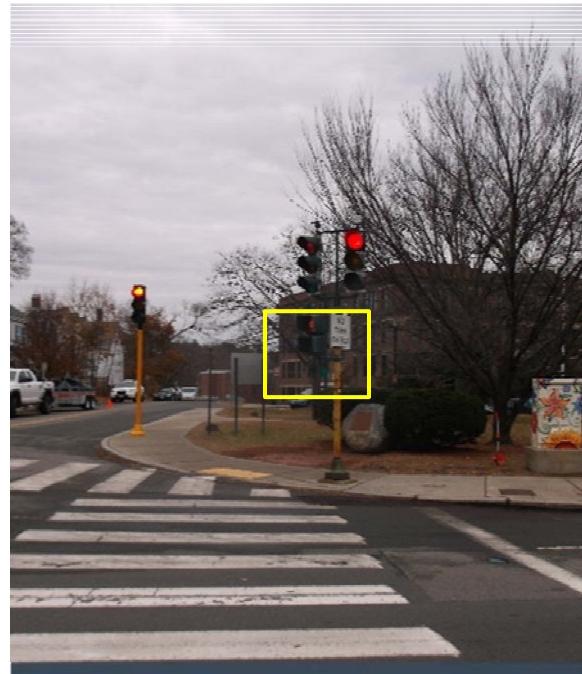


Figure No. 6 Pedestrian Signal Head on NE Corner

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6.1.2 Schouler Court Capacity Analysis

Based on the results presented in Section 3, the anticipated traffic volumes from the two school driveway configuration alternative will likely have a greater impact at the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection. Therefore, the two driveway configuration alternative traffic volumes have been utilized for the capacity analysis at this signalized intersection.

Due to the minor degradation in the levels of service under future build conditions at the signalized intersection of Massachusetts Avenue, Schouler Court, and Lockeland Avenue, mitigation to the intersection has been investigated under the two driveway configuration alternative conditions. The overall intersection of Massachusetts Avenue, Schouler Court, and Lockeland Avenue is anticipated to change to LOS D from LOS C during the school A.M. peak hour under the two driveway configuration alternative conditions. It was determined that retiming the existing traffic signal could improve operations and should be considered. Additional mitigation of possible coordination between the retimed Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection and the retimed Massachusetts Avenue signalized pedestrian crosswalk, which is located west of Churchill Avenue, has also been investigated.

Signalized intersection capacity analysis for the intersection of Massachusetts Avenue, Schouler Court, and Lockeland Avenue was undertaken during the school A.M. and school P.M. peak hours with mitigation under future build conditions using the two driveway configuration alternative traffic volumes. A summary of the level of service for this intersection is shown in Table Nos. 20 and 21 during the school A.M. and school P.M. peak hour, respectively.

**Table No. 20
School A.M. Peak Hour - Level of Service Summary
Mitigation**

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Massachusetts Avenue/Schouler Court/Lockeland Avenue			
Overall Intersection	D (37.8)	C (32.6)	D (41.3)
Northbound Approach	C (20.1)	C (33.9)	D (38.5)
Southbound Approach	C (30.2)	D (51.7)	E (77.4)
Eastbound Approach	D (42.9)	C (27.6)	D (47.5)
Westbound Approach	D (39.5)	C (29.8)	C (21.1)



Table No. 21
School P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Massachusetts Avenue/Schouler Court/Lockeland Avenue			
Overall Intersection	B (19.2)	B (18.1)	D (36.8)
Northbound Approach	B (17.2)	C (27.4)	D (45.7)
Southbound Approach	C (20.3)	C (33.6)	E (61.8)
Eastbound Approach	B (19.5)	B (14.7)	D (40.8)
Westbound Approach	B (18.9)	B (14.3)	C (21.2)

The capacity analysis shows that the retiming of the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection will improve the overall intersection delay from LOS D to LOS C during the school A.M. peak hour. The Schouler Court southbound approach changes from LOS C to LOS D while the Massachusetts Avenue approaches (eastbound and westbound) improves from LOS D to LOS C. The mitigation capacity analysis shows an increase of Schouler Court's anticipated 95th percentile queue by approximately 50-feet, but a reduction of about 70 to 90-feet in the 95th percentile queues for the Massachusetts Avenue approaches during the school A.M. peak hour (see Appendix C for queue lengths).

The capacity analysis shows that the retiming of the intersection will result in no change to the levels of service during the school P.M. peak hour, with the exception of the Lockeland Avenue northbound approach, which will change from LOS B to LOS C.

The initial evaluation of the coordination of the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection with the adjacent signalized crosswalk appears to worsen the levels of service and coordination of these signals is not recommended at this time.



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6.2 Massachusetts Avenue Alternatives

The Town requested that different alternatives along Massachusetts Avenue in front of the school between Schouler Court and Newman Way be investigated and considered, see Figure No. 7.

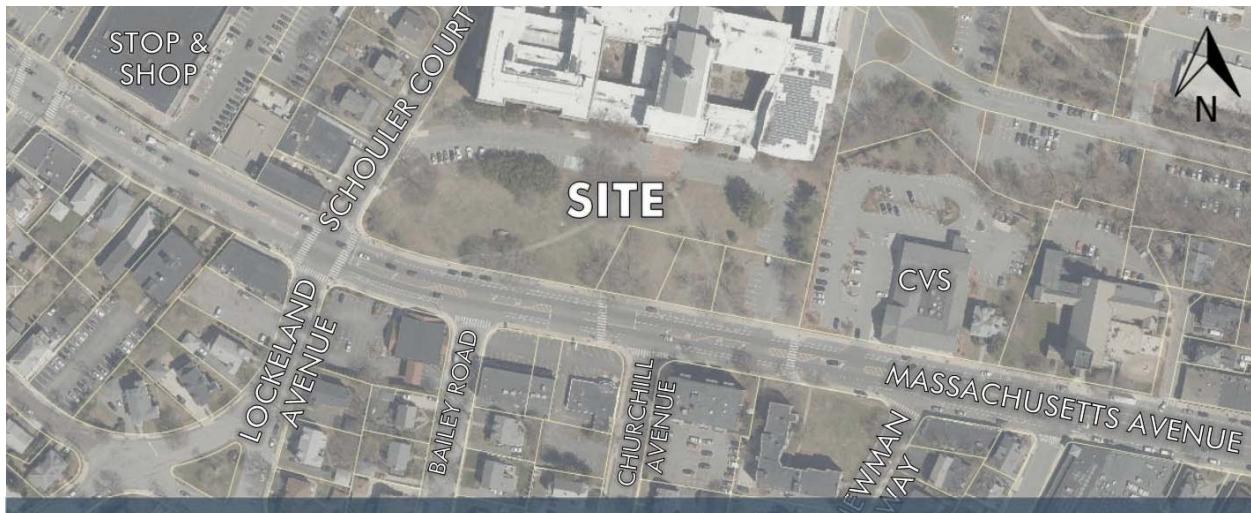


Figure No. 7 Massachusetts Avenue between Schouler Court and Newman Way

6.2.1 Massachusetts Avenue Existing Conditions and Standards Review

Massachusetts Avenue is classified as an Urban Principal Arterial, as presented in the online Road Inventory Interactive Map (<https://gis.massdot.state.ma.us/roadinventory/>), which is attributed to the Massachusetts Department of Transportation. Urban principal arterials, like Massachusetts Avenue, carry a high proportion of the total urban area travel, including bicyclists and pedestrians, and provide a connection from major activity centers to the surrounding roadway network. Massachusetts Avenue between Schouler Court and Newman Way is approximately 75-feet from back of sidewalk to back of sidewalk which is also the available right-of-way along this section of Massachusetts Avenue.

The existing right-of-way has been distributed into dedicated areas for vehicles, bicycles, and pedestrians. Massachusetts Avenue is a three-lane, two-way bituminous vehicular roadway with 11-foot \pm travel lanes and a 10-foot \pm center turn lane that is flanked with 5-foot \pm bicycle lanes, 8-foot \pm parking lanes, and 8.5-foot \pm concrete sidewalks with curbing, see Figure No. 8.

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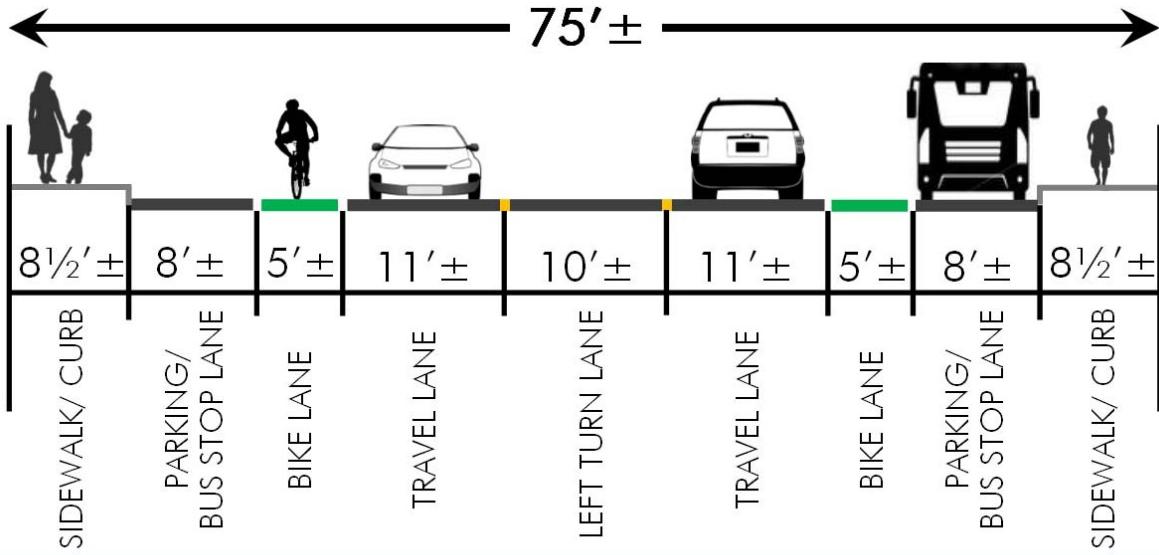


Figure No. 8 Existing Conditions of Massachusetts Avenue - Cross Section Sketch

The cross-sectional elements of Massachusetts Avenue between Schouler Court and Newman Way was examined using principles presented in A Policy on Geometric Design of Highways and Streets, 2018, of the American Association of State Highway and Transportation Officials (AASHTO). This AASHTO publication provides recommendations for various general design considerations, cross-sectional elements, roadside design elements, etc. based on roadway functional classification.

AASHTO recommends lane widths on through-travel lanes to be between 10 and 12-feet wide, where a 10-foot minimum through-travel lane(s) could be installed in constrained areas with relatively low truck and bus volumes as well as having low vehicular speeds of 35 miles per hour (mph) or less. AASHTO also identifies that a width of 10-feet also could be appropriate for a turn lane along arterials in urban areas. The recommended parking lane width is 7 to 10-feet in accordance with AASHTO.

Another AASHTO publication, a Guide for the Development of Bicycle Facilities, 2012, recommends a 5 to 7-foot bike lane width when the bike lane is located between an 8-foot parking lane and a directly adjacent travel lane.

A Guide for Planning, Design, and Operation of Pedestrian Facilities, 2004, of AASHTO recommends a sidewalk width of 8 to 10-foot adjacent to arterial roadways not located in a central business district and a desirable 10-foot sidewalk in a central business district. AASHTO recommends to construct sidewalks to have a clear width of 4-feet, not including any attached curb. Where sidewalks are less than 5 feet, then AASHTO recommends providing passing spaces of at least 5-feet in width, at reasonable intervals, for ADA accessibility.

Based on the AASHTO guidelines for this type of roadway, there is very little opportunity within the existing right-of-way to reallocate width within the roadway's cross section of existing vehicular lanes,



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bike lanes, parking/bus lanes, and sidewalks to another travel mode without eliminating an existing lane or area, e.g. eliminate a parking/bus lane to widen a bike lane.

6.2.2 Cycle Tracks

The National Association of City Transportation Officials (NACTO) provides guidelines, publications, and online resources (<https://nacto.org/>) about urban street design with a special attention to the integration of people walking, biking, parking, riding, and driving in an urban context.

NACTO defines a cycle track as “an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk. Cycle tracks have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. In situations where on-street parking is allowed cycle tracks are located to the curb-side of the parking (in contrast to bike lanes). Cycle tracks may be one-way or two-way, and may be at street level, at sidewalk level, or at an intermediate level [e.g. a raised cycle track].”

One-Way Cycle Tracks

One-way protected cycle tracks are bike ways that are at street level and have a variety of methods for physical protection from passing vehicular traffic, i.e. pavement marking buffer, curbed island, delineators, and other vertical elements. NACTO recommends a minimum cycle track width of 5 feet (or a minimum of 7 feet wide in uphill sections to allow bicyclists to pass each other). NACTO also recommends a 3-foot minimum buffer space between parking lane and the cycle track to prevent door collisions.



Figure No. 9 Examples of One-way Cycle Track Alternatives; courtesy of NACTO

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Two-Way Cycle Tracks

Two-way protected cycle tracks are similar to one-way cycle tracks, although the two-way track would be placed on one side of street rather than split by direction of travel. NACTO recommends a desirable cycle track width of 12-feet and a minimum of 8-feet wide in constrained areas. NACTO also recommends a 3-foot minimum buffer space between parking lane and the cycle track to prevent door collisions.

Based on the NACTO

recommendations, the minimum cross section for a two-way cycle track is 15-feet wide versus providing two one-way cycle tracks totaling 16-feet of cross sectional space.

The current layout of Massachusetts Avenue with two directional bike lanes is more conducive to install/transition into two one-way cycle tracks rather than switching to a two-way cycle track from Schouler Court to Newman Way, unless the Town plans to adopt a two-way cycle track design to the entirety of the Massachusetts Avenue corridor.

Raised Cycle Tracks

Raised cycle tracks provide not only horizontal distance, but vertical distance from the vehicular traffic and potentially the pedestrian traffic. This option requires additional roadway cross section than the previously discussed cycle track, where the desirable one-way raised cycle track travel surface width is 6.5-feet along with a 3-foot minimum buffer space between parking lane and the cycle track to prevent door collisions. NACTO recommends a vertical separation between the roadway and the cycle track of between 1 and 6 inches, where the higher separation values help to discourage illegal parking. NACTO also recommends a vertical separation between the cycle track and the sidewalk of between zero (flush with the sidewalk surface, preferably with a different pavement type and/or color) and 5 inches. NACTO notes that a separation of 3 inches or greater between the cycle track and the sidewalk will help to discourage conflicts with pedestrians.



Figure No. 10 Example of Two-way Cycle Track Alternative; courtesy of NACTO

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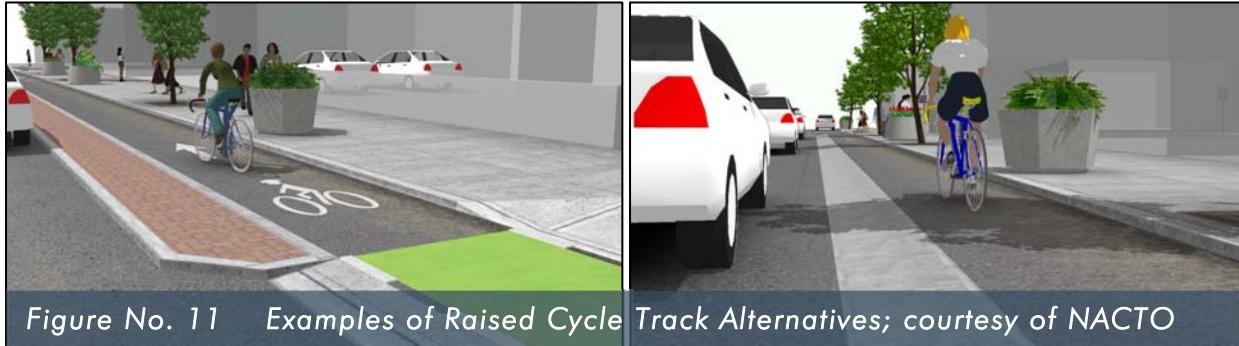


Figure No. 11 Examples of Raised Cycle Track Alternatives; courtesy of NACTO

Cycle Track Maintenance

NACTO highlights how cycle track maintenance is similar to roadway maintenance but may require more frequent attention and special considerations and/or equipment to maintain. Like roadways, cycle tracks should be maintained in order to be free of potholes, broken glass, and other debris. For example, street sweeping may need to be done more frequently than typical roads, especially during the autumn months, because the lack of the sweeping effect from motorized traffic, coupled with the potential 'canyon' or 'trench' profile of a cycle track, it tends to hold leaves and other debris that can be treacherous for cyclists. Snow removal and street sweeping may require special equipment. This is the case if the combined width of cycle track and buffer, or the cycle track width inside of the raised curb is too narrow for existing street maintenance equipment. The Town's snow removal procedures should include minimizing the creation of snow banks in the buffer zone between the parking lane and the cycle track, due to the potential of snow melt flowing across the cycle track that may freeze at night, etc., thus requiring frequent salting/treatment in order to avoid hazardous conditions for cycle track users.

6.2.3 Pedestrian Bump-Outs

Pedestrian bump-outs, or curb extensions, increase the visibility of crossing pedestrians by allowing a pedestrian to line up with the parking lane and discourage vehicles from parking too close to the marked crosswalk. The bump-out will also shorten the curb-to-curb distance that pedestrians must cross with conflicting traffic.



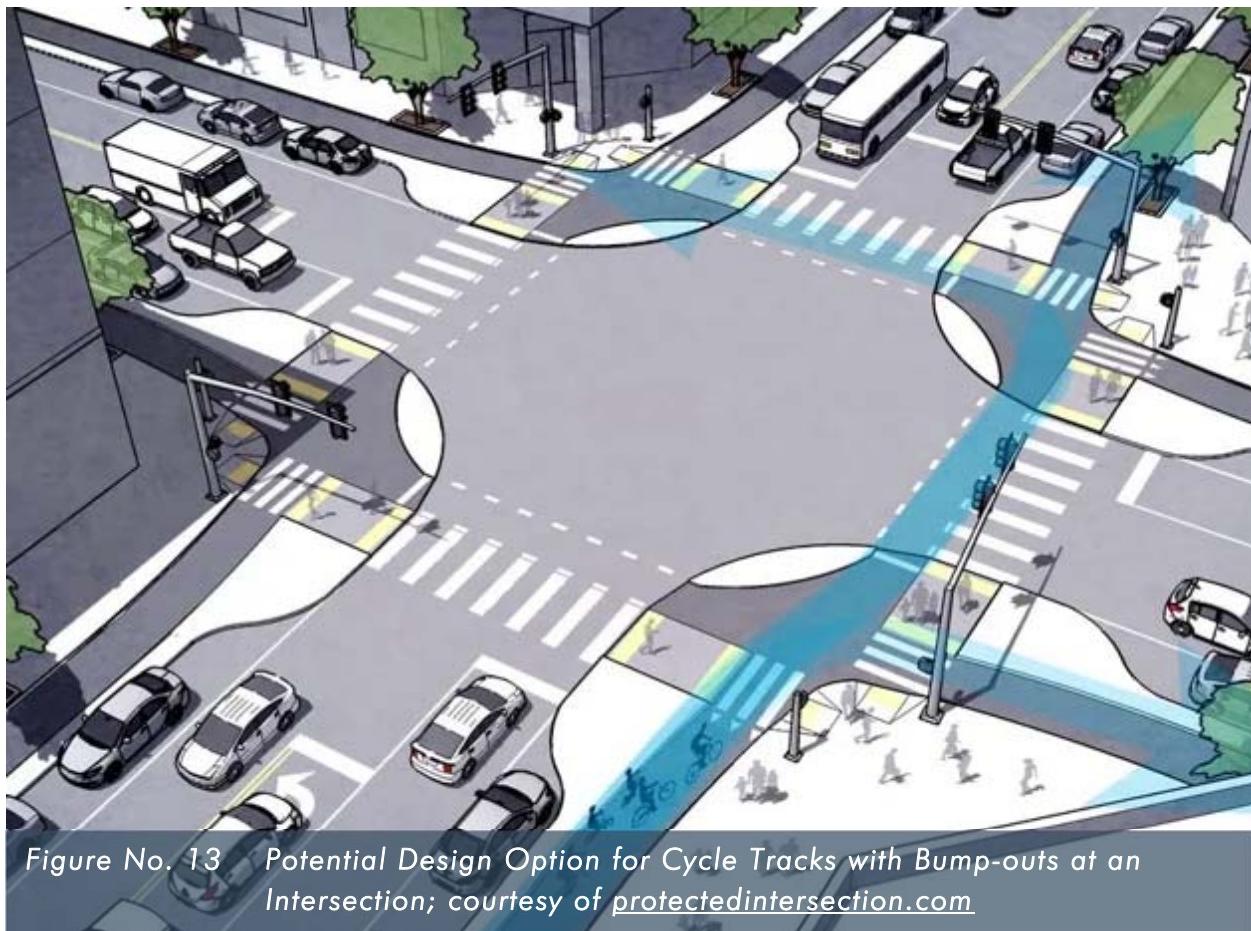
Figure No. 12 Existing Pedestrian Bump-Out

There is an existing pedestrian bump-out at the southeast corner of the site, between the existing high school one-way driveway loop (Carey Drive) and the existing CVS/pharmacy driveway, that shortens the roadway crossing by almost 20-feet, see Figure No. 12. The latest proposed school layout maintains this pedestrian bump-out.

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Traditional pedestrian bump-outs that are constructed adjacent to sidewalks are in direct conflict with cycle tracks. Additional design elements should be considered when providing pedestrian bump-outs in areas of a cycle track so that pedestrian crossing can be maintained and not be in conflict with a bike lane or shared travel lane. A potential solution is to have two separate marked pedestrian crossings: one for the cycle track and the other for the vehicles, as shown in Figure No. 13 that was presented on the *Protected Intersections for Bicyclists* website (<http://www.protectedintersection.com/>).



6.2.4 Massachusetts Avenue Feasibility Sketch

In order to implement a cycle track(s) along Massachusetts Avenue, it appears that current segmentation of travel modes (vehicles, transit, bicycle, and pedestrian) within the existing right-of-way would need to be reallocated with a reduction of space for vehicles and pedestrians in favor of the bicyclists. Additional right-of-way could be acquired from the adjacent properties, including the high school site, to help facilitate additional space for a cycle track(s).

If acquisition of additional right-of-way is pursued from the high school site, the adjacent curb line could be adjusted to accommodate a future buffer adjacent to a bike lane/cycle track, but then other roadside features would also require modifications to accommodate the curb relocation. The

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relocated curbing and sidewalk would require relocation/modification to the existing roadway drainage, relocation/replacement of the existing street lighting, and relocation/replacement of the existing traffic signal equipment. The sidewalk realignment may also require the removal of additional mature trees and/or vegetation on the existing high school front lawn that are currently allocated for preservation. Figure No. 14 depicts an example of a potential layout where a pavement marking gore buffer is installed with wider right-of-way, which provides a buffer space between the existing westbound bike lane and the proposed fire lane and temporary parking lane, i.e. 'standing only' parking lane, that would help to reduce door collision concerns.

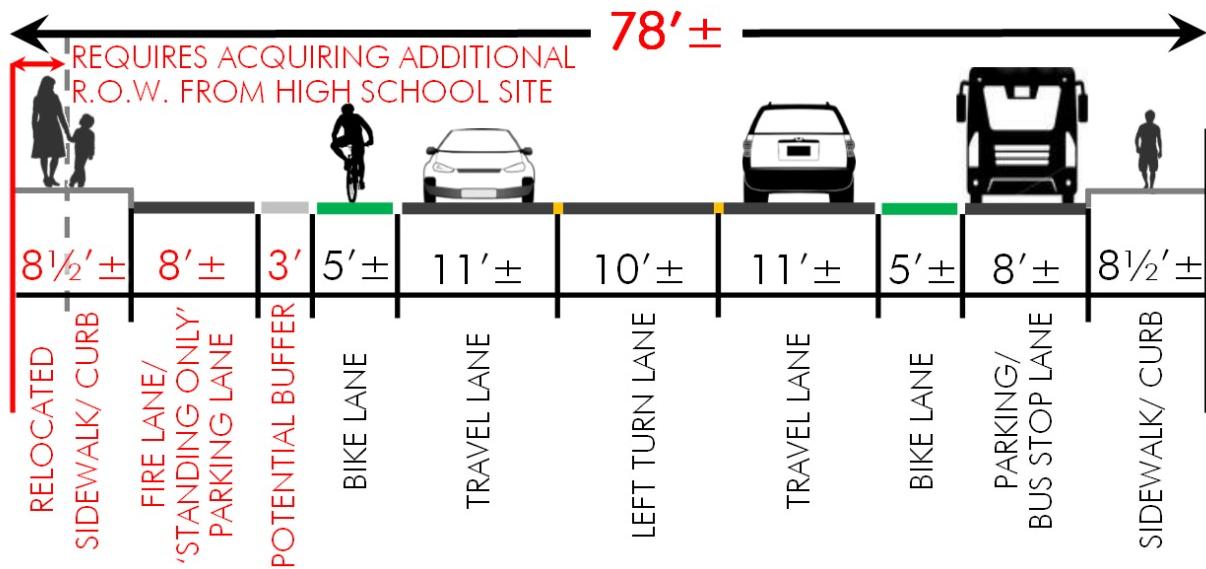


Figure No. 14 Sketch of Potential Design Option for Massachusetts Avenue at Site

When considering the installation of traditional pedestrian bump-outs, which are constructed adjacent to sidewalks and are beneficial to pedestrians navigating busy streets, a balance must be struck since these bump-outs are in conflict with cycle tracks. Additional pedestrian bump-outs could be constructed with the intent that they may need to be altered in the future if a cycle track(s) is implemented along Massachusetts Avenue.



6.3 Massachusetts Avenue Signalized Pedestrian Crosswalk

The Town requested that different alternatives be investigated and considered for the existing Massachusetts Avenue signalized pedestrian crosswalk, which is located to the west of Churchill Avenue, see Figure Nos. 15 and 16.

Based on the results presented in Section 3, the anticipated traffic volumes from the two school driveway configuration alternative will likely have a greater impact at Massachusetts Avenue and the signalized crosswalk. Therefore, the two driveway configuration alternative traffic volumes have been utilized for the capacity analysis at this signalized crosswalk.

6.3.1 Massachusetts Avenue Pedestrian Crosswalk Analysis



Figure No. 15 Existing Crosswalk

Since the original timings were developed for the signalized crosswalk, the guidelines for pedestrian walk and change (flashing don't walk) intervals have been updated, e.g. the calculated walking speed has been reduced to 3.5-feet per second. The mitigation performed at the Massachusetts Avenue signalized pedestrian crosswalk includes the revised timings that adjusted the pedestrian intervals to be in accordance with the latest Manual on Uniform Traffic Control Devices (MUTCD) guidelines. The other alternative investigated for the Massachusetts Avenue signalized

pedestrian crosswalk was possible coordination with the adjacent Massachusetts Avenue, Schouler Court, and Lockeland Avenue signalized intersection.

Signalized intersection capacity analysis for the intersection of Massachusetts Avenue and the pedestrian crosswalk was undertaken during the school A.M. and school P.M. peak hours with mitigation under future build conditions using the two driveway configuration alternative traffic volumes. A summary of the level of service for this intersection is shown in Table Nos. 22 and 23 during the school A.M. and school P.M. peak hour, respectively.



Figure No. 16 Existing Crosswalk

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Table No. 22
School A.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Massachusetts Avenue/Signalized Crosswalk			
Overall Intersection	A (4.0)	A (3.7)	B (15.8)
Eastbound Approach	A (3.8)	A (3.5)	B (10.5)
Westbound Approach	A (4.2)	A (3.8)	C (20.7)

Table No. 23
School P.M. Peak Hour - Level of Service Summary
Mitigation

Intersection/ Critical Movement	Level of Service (Delay-Second/Vehicle)		
	Build (2024) 2 Driveway Alternative	Build (2024) Mitigation	Build (2024) Mitigation – Coordination
Massachusetts Avenue/Signalized Crosswalk			
Overall Intersection	A (4.0)	A (3.6)	B (10.7)
Eastbound Approach	A (4.3)	A (3.9)	A (7.7)
Westbound Approach	A (3.6)	A (3.3)	B (14.5)

The signalized intersection capacity analysis shows that the levels of service will remain the same at the intersection of Massachusetts Avenue and the pedestrian crosswalk during the school A.M. and school P.M. peak hours under future build conditions with the pedestrian intervals adjusted to the latest MUTCD guidelines. The initial evaluation of the coordination of the adjacent Massachusetts Avenue, Schouler Court, and Lockeland Avenue signalized intersection with the signalized crosswalk appears to worsen the levels of service along the Massachusetts Avenue corridor and is not recommended at this time.

6.3.2 Pedestrian Crossing Traffic Control Device/Equipment Alternatives

Signalized Crossing

There are many benefits to pedestrian safety when the vehicular approaches are fully signalized. It is clear to motorists that when the traffic signal indication is red, they must stop until they receive a green indication. Although if a signalized crosswalk is infrequently used, motorists may become complacent and assume the signal indication is always green, consequently disregarding the red indication when it is present, thus greatly reducing pedestrian safety.

This well-established signalized crosswalk on Massachusetts Avenue, coupled with its close proximity to the high school and frequent pedestrian use, provides ideal conditions for this pedestrian crossing to be signalized where the majority of motorists appear to comply with the existing traffic signal indications.



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Pedestrian Hybrid Beacons (PHB)

There are other traffic control devices and equipment alternatives that may be used to enhance pedestrian presence at crosswalks. One such device is a pedestrian hybrid beacon (PHB) treatment, see Figure No. 17. PHB at crosswalks were initially piloted in the City of Tucson, Arizona, and were referred to as a High-intensity Activated crossWALK (HAWK) pedestrian crossing beacon. The Federal Highway Administration (FHWA) has issued publications about the safety and applications of PHB treatments. FHWA's 2014 Pedestrian Hybrid Beacon Guide—Recommendations and Case Study states that "PHBs are becoming increasingly popular with State and local transportation agencies to fill the gap between unprotected crosswalks and full traffic signals to serve pedestrians."



Figure No. 17 Example of a PHB treatment; courtesy of FHWA

At a PHB crossing, motorists receive multiple cues to emphasize the potential presence of a pedestrian. These cues include a unique configuration of the PHB beacon (two red lenses over a single yellow lens), high-visibility crosswalk markings (ladder-style markings as opposed to only two transverse white lines), and a stop line prior to the crosswalk. Similar to the operations of a traditional traffic signal, the PHB uses a red indication to inform motorists to stop after it is activated by a pedestrian, thereby creating a time period for pedestrians to cross the roadway.

The PHB is not illuminated until it is activated by a pedestrian, triggering the warning flashing yellow lens on the roadway. After a set amount of time, the indication changes to a solid yellow light to inform motorists to prepare to stop. The beacon then displays a dual solid red light to motorists on the major street and a walking person symbol to pedestrians. At the conclusion of the walk phase, the

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beacon displays an alternating flashing red light, and pedestrians are shown an upraised hand symbol with a countdown display informing them of the time left to cross. During the alternating flashing red lights, motorists can proceed past the crosswalk after coming to a full stop and checking that pedestrians have already crossed their lane of travel. Each successive motorist is legally required to come to a full stop before proceeding during the alternating flashing red phase. The alternating flashing red phase allows motorist delay to match the actual crossing needs of the pedestrian. Motorists can proceed with a stop-and-go operation during the flashing red phase if a pedestrian walks faster than the assumed walking speed or is walking to the opposite side of the road from the motorist and clears the lanes/roadway, as appropriate. If pedestrians need more time, then the motorists remain stopped until pedestrians finish crossing. The ability to balance the needs of the pedestrians with vehicular delay is a valuable component of the PHB treatment. After the alternating flashing red phase, the PHB returns to a darkened state until activated and helps to combat the 'green light complacency' that some signalized crossings experience. The recommended sequence of a PHB is shown in Figure No. 18.

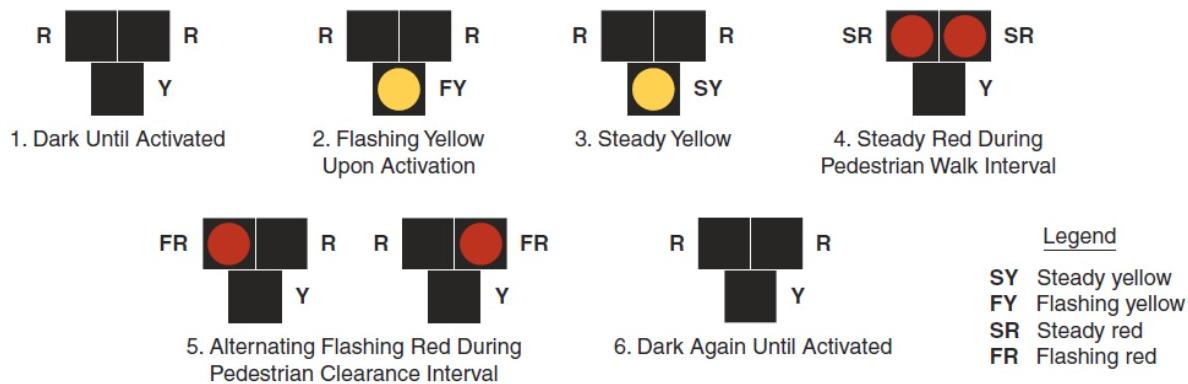


Figure No. 18 Sequence for a PHB; courtesy of MUTCD

Some motorist confusion has been reported at newly installed PHB treatments. When first introduced to an area, enforcement and public education are strongly recommended until users understand how the PHB treatment operates. When the beacon has not been activated, some drivers are confused by the darkened state and stop similar to motorists' behavior towards a signal that is dark due to a power outage. Also, the flashing red phase is sometimes misunderstood by motorists farther back in the queue, where they may follow the lead driver through the crosswalk instead of stopping at the stop line as required to check for lagging pedestrians. Additionally, motorists sometimes remain stopped during the flashing red phase when the crosswalk is clear, due to the PHB similarity to a railroad crossing signal where vehicles are required to stop at railroad crossing during that flashing red phase.

Although there are both positive and negative aspects associated with a PHB treatment in comparison to a traditional signalized pedestrian crossing, it appears that the existing traditional traffic signal treatment being used at the Massachusetts Avenue crosswalk is still the most appropriate. The existing traffic signal appears to be effective and the additional cost and education/outreach campaign that a

PHB treatment would require does not appear to justify the potential PHB benefits at this particular crossing.

Crossing with Flashing Beacons

The use of flashing beacons for pedestrian crossings is another option, although these treatments serve more of an enhanced, passive warning presence to motorists when there is a crossing pedestrian present, rather than directing motorists to stop, see Figure No. 19.

[Improving Pedestrian Safety at Unsignalized Crossings, 2006,](#)

published in conjunction with Transit

Cooperative Research Program (TCRP) and National Cooperative Highway Research Program (NCHRP), summarizes the various pedestrian crossing with flashing beacon(s) configurations that are available. The TCRP/NCHRP publication states that flashing beacons can be installed in numerous ways: at the pedestrian crossing (either overhead and/or side mounted); in advance of the pedestrian crossing (either overhead and/or side mounted); and in conjunction with or integral within other warning signs. The operations for flashing amber beacons also may vary, e.g. continuous flash mode; pedestrian activated using manual pushbuttons; passive pedestrian detection using automated sensors (e.g., microwave or video); a combination of manual pushbuttons and passive detection; along with different flash rates, sequences, or strobe effects.

The experience with flashing beacons has been mixed, as would be expected, when they have been installed in numerous different ways. Several studies have shown that intermittent (typically activated using a manual pushbutton or automated sensor) flashing beacons provide a more effective response from motorists than continuously flashing beacons. These beacons do not flash constantly, thus, when they are flashing, motorists can be reasonably sure that a pedestrian is crossing the street.

Since the flashing beacon(s) installed at pedestrian crossings may not provide the desirable finite direction to motorists, especially when compared to current operations, it appears that the existing traditional traffic signal treatment being used at the Massachusetts Avenue crosswalk is still the most appropriate.



Figure No. 19 Examples of different pole-mounted flashing beacon sign systems; courtesy of TAPCO

7.0 Summer Street Pedestrian Connection

Additional review of the potential improvements to a pedestrian connection between Summer Street, the Minuteman Commuter Bike Way, and the proposed school was requested. As discussed in Section 1.3, data has been collected on Summer Street in the vicinity of the existing Minuteman Commuter Bike Way connection, including obtaining the 85th percentile speeds of the existing traffic. The future bike way connection is anticipated to stay in the same area of Summer Street.



7.1 Existing Conditions

The existing connection to the Minuteman Commuter Bike Way on the south side of Summer Street is located within horizontal curvature of Summer Street, see Figure No. 20. Although there is a curb cut at the connection, there is no existing crosswalk on Summer Street adjacent to the bike way connection. Summer Street, in the vicinity of the bike way connection, is a two-lane, two-way bituminous roadway, approximately 36.5 feet in width with a 14-foot westbound travel lane, a 12.5-foot eastbound travel lane, a 2.5-foot westbound shoulder, and a 7.5 eastbound shoulder. There is no curbing nor sidewalk, and there is rock ledge on the north side of the roadway. There is granite

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curb, a grass strip, bituminous sidewalk, and utility poles on the south side of the roadway, see Figure No. 21.



Figure No. 21 Summer Street in the vicinity of the Minuteman Commuter Bike Way

7.2 Safety Analysis – Geometrics

The geometric configuration of Summer Street adjacent to the Minuteman Commuter Bike Way connection was examined with regard to safe stopping sight distance using principles presented in A Policy on Geometric Design of Highways and Streets, 2018, of the American Association of State Highway and Transportation Officials (AASHTO). AASHTO provides recommendations for necessary sight distance at intersections and crossings.

A design speed of 35 mph was utilized for Summer Street in the vicinity of the Minuteman Commuter Bike Way connection based on the observed 85th percentile speeds of 32 mph for the westbound traffic and 33 mph for the eastbound traffic (see Appendix D). The minimum safe stopping distance for roadways with a design speed of 35 mph is 250 feet, as required by AASHTO, Table 3-1. Stopping Sight Distance on Level Roadways, P. 3-4. The sight distances on the south side of Summer Street (on the outside of the horizontal curve) in vicinity of the bike way connection are in excess of the minimum sight distances required. The north side of Summer Street (on the inside of the horizontal curve) in vicinity of the bike way connection does not provide the ideal sight distances for crossing pedestrians due to roadway curvature in conjunction with existing vegetation and vertical rock ledge obstructions.

7.3 Summer Street Pedestrian Connection Feasibility Sketches

Due to the lack of sidewalks in the vicinity of the existing Minuteman Commuter Bike Way connection on the north side of Summer Street, along with the existing poor sight distance and existing rock ledge, installing a pedestrian crosswalk at this location is not recommended. It is recommended to discourage pedestrians from crossing Summer Street in this area and direct them to cross Summer Street either west or east of the existing bike way connection.

The existing crosswalk at the intersection of Summer Street and Oak Hill Drive (located to the west of the bike way connection) has existing signing and striping, as well as curb ramps on both sides for access. This existing crosswalk is recommended to be used as a crossing to the west of the bike way connection.

It is also recommended to investigate the potential of a installing a crosswalk at the intersection of Summer Street and Richfield Road, which is located to the east of the bike way connection. If the crosswalk is installed on the west side of Richfield Road, as shown in Figure No. 22, it is anticipated that the existing driveway opening will need to be reduced in order to construct the curb ramp due to the adjacent utility pole and fence/building entrance.

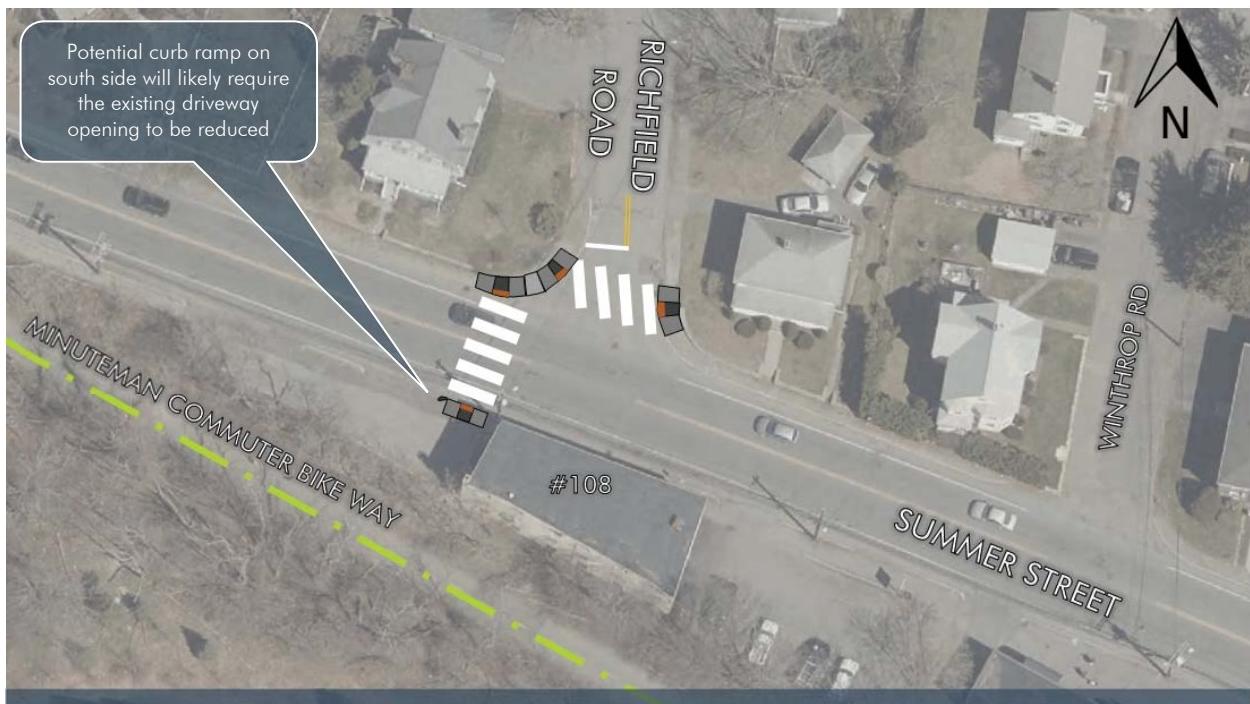


Figure No. 22 Potential Crosswalk at the Summer Street & Richfield Road intersection

The existing crosswalk located at the signalized intersection of Summer Street, Mill Street, and Cutter Hill Road could also be used as a pedestrian crossing to the east of the bike way connection.

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There is an opportunity to install a bump-in adjacent to the Minuteman Commuter Bike Way connection in the eastbound direction between the existing utility poles, see Figure No. 23. It will require the existing curb line to be reset/realigned towards the bike way and the reconstruction/realignment of the sidewalk in this area. It will also require the removal of existing vegetation that is in conflict with the potential realignment area. An optional bike ramp, similar to Figure No. 24, could be installed to allow eastbound on-street bicycle traffic to gain access to the Minuteman Commuter Bike Way. It would be recommended to locate the bike ramp to the west of the potential bump-in and/or the Summer Street bike way connection.



Figure No. 23 Potential Bump-In at Bike Way Connection



Figure No. 24 Example of Bike Ramp (optional)

The bump-in may help to deter pedestrians and bicyclists from crossing Summer Street when there are vehicles in the widened roadway shoulder. The bump-in will also cause this location to be more attractive for vehicles to drop-off and pick-up students. It is recommended that the north side of the roadway be signed for 'no parking' and/or 'no standing' to help prevent vehicles from pulling over into the narrow westbound shoulder to drop-off and pick-up people that cross over from the bike way connection. Increased police enforcement may be required to ensure vehicles are not stopping

in the westbound shoulder, especially during school morning arrival and afternoon dismissal times.

8.0 Conclusions and Recommendations

This supplemental traffic impact study was conducted to evaluate different alternatives requested by the Arlington's Transportation Advisory Committee and the impacts on surrounding roadways and intersections due to the proposed all-new high school on Massachusetts Avenue in Arlington, MA. It is the intent of this study that it be used in conjunction with the *Arlington High School Traffic Impact Analysis (TIA)*, dated August 2018.

8.1 Site Driveway Configuration Alternatives

The two driveway configuration alternative anticipates that the majority of the traffic volume generated by the school will be concentrated on Schouler Court via Massachusetts Avenue and Mill Brook Drive via Mill Street (and by extension Summer Street and Massachusetts Avenue). The three driveway configuration alternative will reduce the demands anticipated for Schouler Court and Mill Brook Drive by shifting a portion of the anticipated traffic volume to Grove Street, which will add volumes to the already congested unsignalized intersections at either end of Grove Street. Both alternatives will require the Town to consider what type of intersection improvements/investments are more desirable and appropriate to the Town as a whole.

Although discussed further in Sections 8.2 and 8.3, it is apparent regardless of which alternative is pursued, that the Town should consider the installation of a new traffic signal at the intersection of Mill Street and Mill Brook Drive. The Town should also consider the installation of new traffic signals at both ends of Grove Street, since both intersections meet signal warrants under future no-build conditions. Overall, the majority of the existing signalized intersections would benefit from retiming or should be monitored after the new school is in operation for potential retiming during all peak hours, see Table No. 24.

8.2 Mill Street Corridor

The anticipated traffic volumes from the two school driveway configuration alternative will likely have a greater impact on the Mill Street corridor based on the results presented in Section 3. Therefore, the two driveway configuration alternative traffic volumes have been utilized for the Mill Street Corridor Analysis.

The overall signalized intersection of Summer Street, Mill Street, and Cutter Hill Road is anticipated to operate at acceptable levels of service during the school A.M., school P.M., and commuter P.M. peak hours under future build conditions for the two driveway configuration alternative traffic volumes. The preliminary retiming mitigation analysis at this intersection did not result in significant delay reductions for the individual approaches nor the overall intersection, therefore signal retiming was not pursued at this intersection.

As anticipated, the potential traffic signal at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway indicates a significant reduction in delay for the Mill Brook Drive



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(eastbound) approach during the peak hours. The potential traffic signal at Mill Brook Drive will introduce interrupted flow along Mill Street (increase in delay and queues) that is not currently present in the corridor to allow better ingress and egress to Mill Brook Drive. The potential traffic signal will provide a more even distribution of delay than the unsignalized intersection scenario.

The Massachusetts Avenue, Mill Street, and Jason Street intersection operations will benefit greatly from retiming mitigation during the peak hours. The retiming includes the addition of a left turn phase for the Mill Street southbound approach, which already has a striped exclusive left turn lane though will require traffic signal equipment upgrades.

A review of the impacts of the 95th percentile queue lengths for both the potential traffic signal at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway and the existing traffic signal at the intersection of Massachusetts Avenue, Mill Street, and Jason Street showed that it is anticipated that the 95th percentile queue of the Mill Street southbound approach will extend past its intersection with Mill Brook Drive during the school A.M. peak hour. The 95th percentile queues are not anticipated to extend into the adjacent traffic signal within the Mill Street corridor during the school P.M. nor the commuter P.M. peak hour. It is recommended that the Town consider installing 'do not block' intersection markings and applicable signage within the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway, see Figure No. 25.

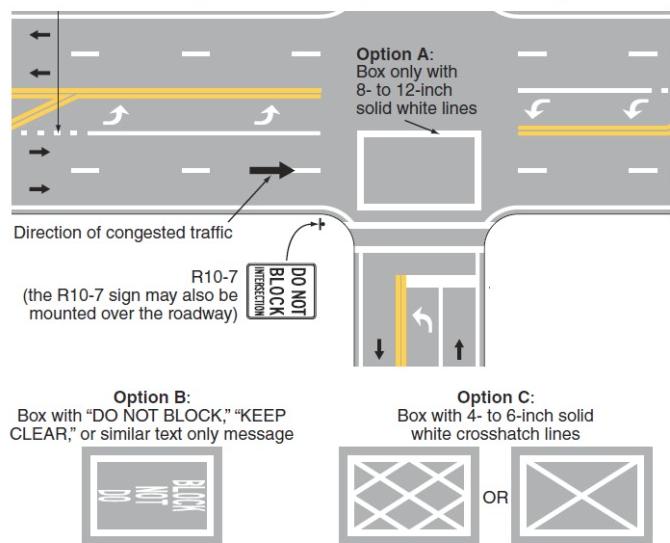


Figure No. 25 'Do Not Block' intersection markings; courtesy of MUTCD

Based on the initial review of potential mitigation options, it is not recommended to coordinate the potential traffic signal at the intersection of Mill Street, Mill Brook Drive, and the Millbrook Square driveway and the existing traffic signal at the intersection of Massachusetts Avenue, Mill Street, and Jason Street, if the potential Mill Brook Drive traffic signal is pursued.

8.3 Grove Street Corridor

The anticipated traffic volumes from the three school driveway configuration alternative will likely have a greater impact on the Grove Street corridor based on the results presented in Section 3. Therefore, the three driveway configuration alternative traffic volumes have been utilized for the Grove Street Corridor Analysis.

The traffic signal warrant analyses have been performed for the two unsignalized intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street and the analysis

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indicates that both intersections meet four out of the nine traffic signal warrants under the future no-build conditions. Since the intersections met multiple traffic signal warrant criteria, the Town should consider the installation of new traffic signals at both ends of Grove Street. The capacity analysis performed for the potential signal at the Massachusetts Avenue and Grove Street intersection also includes the restriping of the eastbound approach of Massachusetts Avenue to add a left turn lane.

As anticipated the capacity analysis shows that the potential traffic signals at the intersections of Summer Street and Grove Street; and Massachusetts Avenue and Grove Street indicates a significant reduction in delay for the applicable Grove Street approach for both intersections during the peak hours. The potential traffic signals at the ends of Grove Street will introduce interrupted flow (increase in delay and queues) along Summer Street and Massachusetts Avenue that is not currently present on these roadways to allow better ingress and egress to Grove Street. The potential traffic signal will provide a more even distribution of delay at these intersections than the unsignalized intersection scenario.

A review of the impacts of the 95th percentile queue lengths for the intersection of Summer Street, Brattle Street, and Symmes Road showed that it is anticipated that the 95th percentile queue of the Summer Street westbound approach will extend past its intersection with Grove Street during the peak hours. It is recommended that the Town consider installing 'do not block' intersection markings and applicable signage within the intersection of Summer Street and Grove Street, see Figure No. 25.

Based on the initial review of potential mitigation options, it is not recommended to coordinate the potential traffic signal at the intersection of Summer Street and Grove Street and the existing traffic signal at the intersection of Summer Street, Brattle Street, and Symmes Road, if the potential Grove Street traffic signal is pursued.

If the signalization of the Massachusetts Avenue and Grove Street intersection is pursued, it is recommended to investigate the coordination of the potential traffic signal at the intersection of Massachusetts Avenue and Grove Street; and the existing traffic signal at the intersection of Massachusetts Avenue, Highland Avenue, and the Stop & Shop driveway. The coordination of these signals indicate a reduction in the potential of queuing overlap between these intersections along the Massachusetts Avenue corridor based on this initial review of potential mitigation options.

It is recommended that the Town consider installing 'do not block' intersection markings and applicable signage within the intersection of Massachusetts Avenue and Grove Street, see Figure No. 25.

8.4 Schouler Court and Massachusetts Avenue Considerations

For the intersection of Massachusetts Avenue, Schouler Court, and Lockeland Avenue, it is recommended that the pedestrian button on the southeast corner to be serviced, since it does not appear to be operational. The pedestrian signal head on the northeast corner of the Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection is recommend to be realigned to provide



Arlington High School

Arlington, MA

better guidance to the southeast corner, as discussed in Section 6.1.1. It is recommended that the existing traffic signal at Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection be retimed to improve operations, especially under the future build two driveway configuration alternative conditions. It is also recommended to maintain a full traffic signal at the existing Massachusetts Avenue signalized pedestrian crosswalk, which is located to the west of Churchill Avenue, but to adjust the pedestrian intervals to meet the latest guidelines. The existing Massachusetts Avenue signalized pedestrian crosswalk does not appear to benefit from a redesign to a pedestrian hybrid beacon (PHB) treatment or a flashing beacon pedestrian crossing treatment, see Section 6.3.2. The initial evaluation of the coordination between the retimed Massachusetts Avenue, Schouler Court, and Lockeland Avenue intersection with the adjusted pedestrian intervals at the adjacent Massachusetts Avenue signalized pedestrian crosswalk appears to worsen the levels of service along the Massachusetts Avenue corridor and is not recommended at this time.

Massachusetts Avenue, an urban principal arterial, is a roadway that carries a high proportion of the total urban area travel, including bicyclists and pedestrians, and provides a connection from major activity centers to the surrounding roadway network. Massachusetts Avenue between Schouler Court and Newman Way is approximately 75-feet from back of sidewalk to back of sidewalk is also the available right-of-way along this section of Massachusetts Avenue. Based on AASHTO guidelines for an urban principal arterial, there is very little opportunity within the existing right-of-way to reallocate width within the roadway's cross section of existing vehicular lanes, bike lanes, parking/bus lanes, and sidewalks to another travel mode without eliminating an existing lane or area, e.g. eliminate a parking/bus lane to widen a bike lane.

Despite the lack of available right-of-way, different cycle track configurations, as well as pedestrian bump-outs, were investigated to evaluate the impacts of incorporating these features into the Massachusetts Avenue corridor near the proposed high school, see Section 6.2. Protected cycle tracks will provide cyclists with more traveling comfort as compared to a bike lane that is located between parked vehicles and moving vehicular traffic. Pedestrian bump-outs will typically require converting part of the existing shoulder or parking lane to allocate that space to a bump-out, but it provides a more comfortable and easier crossing for pedestrians by placing them in a higher-visible location to conflicting vehicles and by shortening the crossing distance from curb to curb. Unfortunately, in most cases the traditional pedestrian bump-out design is in direct conflict with cycle tracks where both roadside elements are seeking to be adjacent to the sidewalk. Cycle tracks and pedestrian bump-out may coexist but additional space requirements are typically needed as well as extra design elements should be considered prior to them being installed together.

At this time, a cycle track or cycle track elements cannot be implemented without obtaining additional right-of-way. Additional pedestrian bump-outs could be constructed although they may need to be altered in the future if a cycle track(s) is executed along Massachusetts Avenue.



8.5 Summer Street Pedestrian Connection

The installation of a marked crosswalk is not recommended at the existing Minuteman Commuter Bike Way connection on Summer Street due to the lack of sidewalks on the north side of the roadway in the vicinity of the connection, along with the existing poor sight distance and existing rock ledge. It is recommended to discourage pedestrians from crossing Summer Street in this area and direct them to cross Summer Street either west or east of the existing bike way connection.

The existing crosswalk at the intersection of Summer Street and Oak Hill Drive (located to the west of the bike way connection) has existing signing and striping, as well as curb ramps on both sides for access. This existing crosswalk is recommended to be used as a crossing to the west of the bike way connection. It is recommended to investigate the potential of installing a crosswalk at the intersection of Summer Street and Richfield Road, which is located to the east of the bike way connection. The existing crosswalk located at the signalized intersection of Summer Street, Mill Street, and Cutter Hill Road, which is located further east of Richfield Road, could also be used as a pedestrian crossing to the east of the bike way connection.

There is an opportunity to install a bump-in adjacent to the Minuteman Commuter Bike Way connection in the eastbound direction between the existing utility poles, see Section 7.3. An optional bike ramp could be installed to allow eastbound on-street bicycle traffic to gain access to the Minuteman Commuter Bike Way, which is recommended to be located to the west of the potential bump-in and/or the Summer Street bike way connection. The bump-in may help to deter pedestrians and bicyclists from crossing Summer Street when there are vehicles in the widened roadway shoulder. The bump-in will also cause this location to be more attractive for vehicles to drop-off and pick-up students. It is recommended that the north side of the roadway be signed for 'no parking' and/or 'no standing' to help prevent vehicles from pulling over into the narrow Summer Street westbound shoulder to drop-off and pick-up people that cross over from the bike way connection. Increased police enforcement may be required to ensure vehicles are not stopping in the westbound shoulder, especially during school morning arrival and afternoon dismissal times.



8.6 Area Traffic Signal Considerations

Based on the analysis presented in this supplemental traffic impact study, Table No. 24 summarizes the potential traffic signal equipment recommendations that the Town should consider to improve the overall traffic operations in the vicinity of the proposed high school.

Table No. 24
Summary Traffic Signal Equipment Recommendations to be Considered

Intersection	2 Driveway Configuration Alternative	3 Driveway Configuration Alternative
Summer Street, Brattle Street, & Symmes Road	Retiming Recommended	Retiming Recommended
Summer Street & Grove Street	Recommended to Consider New Signal	New Signal Strongly Recommended
Summer Street, Mill Street, & Cutter Hill Road	None at this time	None at this time
Mill Street, Mill Brook Drive, & the Millbrook Square driveway	New Signal Strongly Recommended	New Signal Strongly Recommended
Massachusetts Avenue, Mill Street, & Jason Street	Retiming Strongly Recommended; Additional equipment may be required	Retiming Recommended
Massachusetts Avenue & the signalized pedestrian crosswalk	Retiming Pedestrian Interval Recommended; Recommended to Consider New Signal Equipment Upgrades	Retiming Pedestrian Interval Recommended; Recommended to Consider New Signal Equipment Upgrades
Massachusetts Avenue, Schouler Court, & Lockeland Avenue	Retiming Strongly Recommended	Retiming Recommended
Massachusetts Avenue, Highland Avenue, & the Stop & Shop driveway	Retiming Recommended	Retiming Strongly Recommended
Massachusetts Avenue & Grove Street	Recommended to Consider New Signal	New Signal Strongly Recommended



TRANSPORTATION ADVISORY COMMITTEE.

Arlington Planning Department, 730 Mass Ave,
Arlington MA, c/o Daniel Amstutz.

Date: September 1, 2020.
To: Adam Chapdelaine, Arlington Town Manager.
From: TAC Arlington High School Working Group.
Subject: Arlington High School Supplemental Traffic Impact Analysis Review.

Memorandum.

This memo contains two sections. The first summarizes and explains the recommendations made in the Supplemental TIA, along with responses to those recommendations from this working group. The second identifies questions from the working group's review of the Draft TIA, dated October 30, 2018, which are not addressed in the Supplemental TIA.

1. A TAC working group consisting of Jeff Maxtutis (TAC Vice Chair), Melissa Laube, Dan Amstutz (Planning Department) and Howard Muise (TAC Chair) has reviewed the Supplemental Traffic Impact Analysis Report, dated February 2020, and offers the following summary of the report's recommendations.

The Town should consider installing traffic signals at the Grove Street intersections with Summer Street and Massachusetts Avenue. This recommendation is based on an analysis which indicates both intersections will operate at deficient levels of service under no-build and two build conditions (1. two driveways at Schouler Court and Mill Brook Drive, and 2. three driveways with the addition of a driveway to Grove Street). The report concludes that both intersections will meet warrants for installing traffic signals and that with signalization, both intersections will operate at acceptable levels of service (LOS D or better) in the morning, school (mid-afternoon), and evening peak hours. The report also notes that there will be an increase in delay on both approaches of Summer Street at the intersection with Brattle Street and Symmes Road.

The working group recommends that action on these two potential signals be delayed until after the new High School opens and traffic has had time to stabilize. At that time the decision whether to install traffic signals could be based on analysis of actual traffic volumes, including analyses of the interaction of the new signals with the exiting signals at Highland Avenue and Massachusetts Avenue, and at Summer Street and Brattle Street/Symmes Road.

The Town should consider installing a traffic signal at the intersection of Mill Street, Mill Brook Drive and Millbrook Square Driveway along with “Do Not Block Intersection” signing and pavement markings. The Mill Brook Drive approach to the intersection is projected to operate at LOS F in all three peak hours. With a traffic signal, the Mill Brook Drive approach would improve to LOS D or better in all three peak hours. The overall intersection would operate at LOS C or better in all peak hours under build conditions. Backups from the southbound approach of Mill Street to Massachusetts Avenue would extend to Mill Brook Drive only in the morning peak hour during about five percent of the signal cycles. To address

possible queuing back to Mill Brook Drive on Mill Street, the report recommends installing “Do Not Block Intersection” signing and pavement markings at the Mill Street, Mill Brook Drive, and Millbrook Square Driveway.

The working group recommends that action on a potential signal at this location be delayed until after the new High School opens and traffic has had time to stabilize. Because of improved site circulation and a major school entrance at the back of the building it is difficult to project future traffic flows. The decision whether to install a traffic signal could be based on analysis of actual volumes, including analyses of the interaction of the new signal with the exiting signals at Mill Street and Summer Street, and Mill Street and Massachusetts Avenue.

The Town should retime the signal at the intersection of Massachusetts Avenue, Schouler Court and Lockeland Avenue after the new school building opens. With the two driveway alternative, the signal is projected to operate at LOS D in the morning peak and LOS B in the school afternoon peak hour. Retiming would improve the overall level of service to C in the morning peak hour and would not change the afternoon level of service. The recommendation also includes reviewing timing at other signals in the area and making any necessary adjustments after the new building opens. In addition, the pedestrian button on the southeast corner does not appear to be operational and should be serviced and the pedestrian signal head on the northeast corner of the intersection should be realigned to provide better guidance to pedestrians on the southeast corner. The report also studied coordination between the Schouler Court traffic signal and the pedestrian signal on the Massachusetts Avenue in front of the school. The results indicated coordination would reduce level of service at both the intersection and the crosswalk in both the morning and school afternoon peak hours.

The working group supports these recommendations for the Schouler Court intersection and recommends that the Department of Public Works service the pedestrian button and realign the pedestrian signal head in the near term.

The Town should adjust the pedestrian signal timing at the crosswalk on Massachusetts Avenue in front of the school to conform with current Manual on Uniform Traffic Control Devices (MUTCD) guidelines. Since the original timings were developed for the signalized crosswalk, the guidelines for pedestrian walk and change (flashing don’t walk) intervals have been updated, i.e., the calculated walking speed has been reduced to 3.5-feet per second. This requires a longer pedestrian crossing time. The report considered alternatives to the existing pedestrian signal – A pedestrian hybrid beacon and flashing beacons. The report concluded that the existing pedestrian signal was the best alternative for this location because it provides the most definitive direction to drivers and retains the current operation, which drivers are accustomed to.

The working group supports this recommendation that the timing on the pedestrian signal be updated to reflect current MUTCD guidance and recommends that the Department of Public Works make this change in the near term.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

Web site: www.arlingtonma.gov/tac

The Town should consider installing a pullout on eastbound Summer Street at the existing paved connection between the sidewalk and the Minuteman Bikeway. This improvement also includes a bicycle ramp between the street and sidewalk west of the pullout to allow for direct bicycle access to the proposed bicycle and pedestrian ramp between the school building and Summer Street. The pullout would allow vehicles to exit the travel lane to allow for drop-off and pick-up at the top of the ramp between the school and Summer Street. Vehicles using this location would be able to avoid traveling on campus or roadways around the campus.

The eastbound roadway has a 12.5-foot travel lane, and a seven and a half-foot shoulder. There is sufficient stopping sight distance at this location and room to realign the roadway curb line and sidewalk.

The report also investigated installing a crosswalk between the south side and the north side of the street at this location and concluded it was not a suitable location for a crosswalk. The north side has no sidewalk because of an existing rock ledge close to the edge of the road. Also, there is insufficient stopping sight distance on the westbound approach because it is on the inside of a horizontal curb. To help discourage westbound vehicles from stopping, “No Stopping” signs could be installed. Pedestrians should cross Summer Street at Oak Hill Drive or Mill Street. A new crosswalk could potentially be added at Rich field Road which would be about 500 feet closer to the connection to the Bikeway than the crosswalk at Mill Street.

The working group recommends that the decision on a pullout be delayed until after opening of the new school and installation of the bike/pedestrian connection between the Minuteman Bikeway and the school. At that time the actual drop-off and pick-up activity on Summer Street can be monitored and the need for a pull out and/or new Summer Street crosswalk in the area can be evaluated.

At this time, a cycle track or cycle track elements cannot be implemented on Massachusetts Avenue without obtaining additional right-of-way. The existing cross section of Massachusetts Avenue between Schouler Court and Newman Way (opposite CVS) is 75 feet. This allows for an eight and half-foot sidewalk, eight-foot parking lane, five-foot bike lane, and 11-foot vehicle travel lane on each side of the roadway plus a ten-foot center turn lane. To convert the existing bike lane to a cycle track between the parking lane and sidewalk, a three-foot separation between the parking lane and bike lane would be required. This separation is needed so that a bicyclist is not hit by the opening of the passenger side door of a parked car. According to the Supplemental TIA the additional three feet on each side of the roadway would need to be taken from the existing lanes and/or sidewalk, or the right of way would need to be increased by six feet.

The working group disagrees with this assessment and recommends that further consideration be given to the installation of a cycle track. Attached to this memo are two concepts for a cycle track that would not require additional right-of-way. Both concepts require the removal of

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair),
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the center turn lane. Version 1 has fairly wide travel lanes (13') that would allow left-turning vehicles to be passed on the right, mitigating the loss of the center turn lane. This would only impact westbound traffic because there will be no driveways on the north side of Massachusetts Avenue. Both concepts would retain the existing sidewalks on both sides of the roadway and would require transitions between the cycle track and the existing roadway cross-section at either end.

Version 1 would also eliminate parking on the south side of Massachusetts Avenue. The south side parking, particularly between Lockeland Avenue and Churchill Avenue, is limited because of fire hydrants, driveway curb cuts, and the crosswalk across Massachusetts Avenue at Churchill Avenue, leaving room for about eight legal parking spaces. There are about another seven spaces between Churchill Avenue and the CVS. The businesses on the south side of the street have off-street parking, and short-term parking is available on the side streets. Therefore, any parking impact should be limited.

In Version 1, the seven-foot bike lane on the high school side would be raised to the level of the sidewalk and would include a seven-foot wide raised median between the raised bike lane and the roadway. This would make it easy for students to cross the bike lane and would not require additional curb cuts. The curb on the AHS side would be shifted 14 feet to the south to accommodate the raised bike lane and median. A six-foot bike lane would be provided on the south side of the road separated from the traffic lane by a four-foot striped buffer with three-foot high flex-posts.

Version 2 retains an eight-foot parking lane on the south side of Massachusetts Avenue. There may be some loss of parking due to the need to preserve sight lines for the bank driveways and the intersections with Bailey Road and Churchill Avenue, but not a complete loss as in version 1. The parking lane would be separated from the sidewalk by a street level six-foot bike lane and a three-foot striped buffer with three-foot high flex-posts between the bike and parking lanes.

The Version 2 concept has 11-foot travel lanes, which is the MBTA minimum to accommodate buses. The seven-foot fire lane would generally allow westbound vehicles to pass westbound left-turning vehicles, mitigating the loss of the center turn lane. In contrast to Version 1, the six-foot bike lane would be kept at street level and would be separated from the fire lane by a six-foot raised median which would not be connected to the existing curb. The raised median is needed to prevent vehicles from crossing the bike lane to reach or leave the current curb for drop-off and pick-up. A curb opening would be required in the median at the Massachusetts Avenue crosswalk to provide an accessible path.

2. The TAC working group also found that the following requests for additional information were not addressed in the Supplemental TIA:

- a) Clarify the assumptions about how the roadway behind the school would operate in the Build condition.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

Web site: www.arlingtonma.gov/tac

- b) Provide information showing that there is sufficient room at the back of the school to accommodate expected drop-off/pick-up, bicycle, and pedestrian activity, and provide information on queuing and delay.
- c) Consider how to accommodate drop-off and pick-up activity that will likely occur at the front of the school, including providing an on-site driveway or pull-out along Massachusetts Avenue.
- d) Include a Build condition parking supply/demand analysis to assess the impact of future parking on area roadways.
- e) Provide a plan that shows how pedestrians will access the buildings, circulate between buildings on the campus and connect to sidewalks on Massachusetts Avenue, Mill Street and Grove Street.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Michael Barry, Aravind Basavapathruni, Wayne Chouinard (Public Works),
Lenard Diggins, Thouis (Ray) Jones, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair),
Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan, Shoji Takahashi

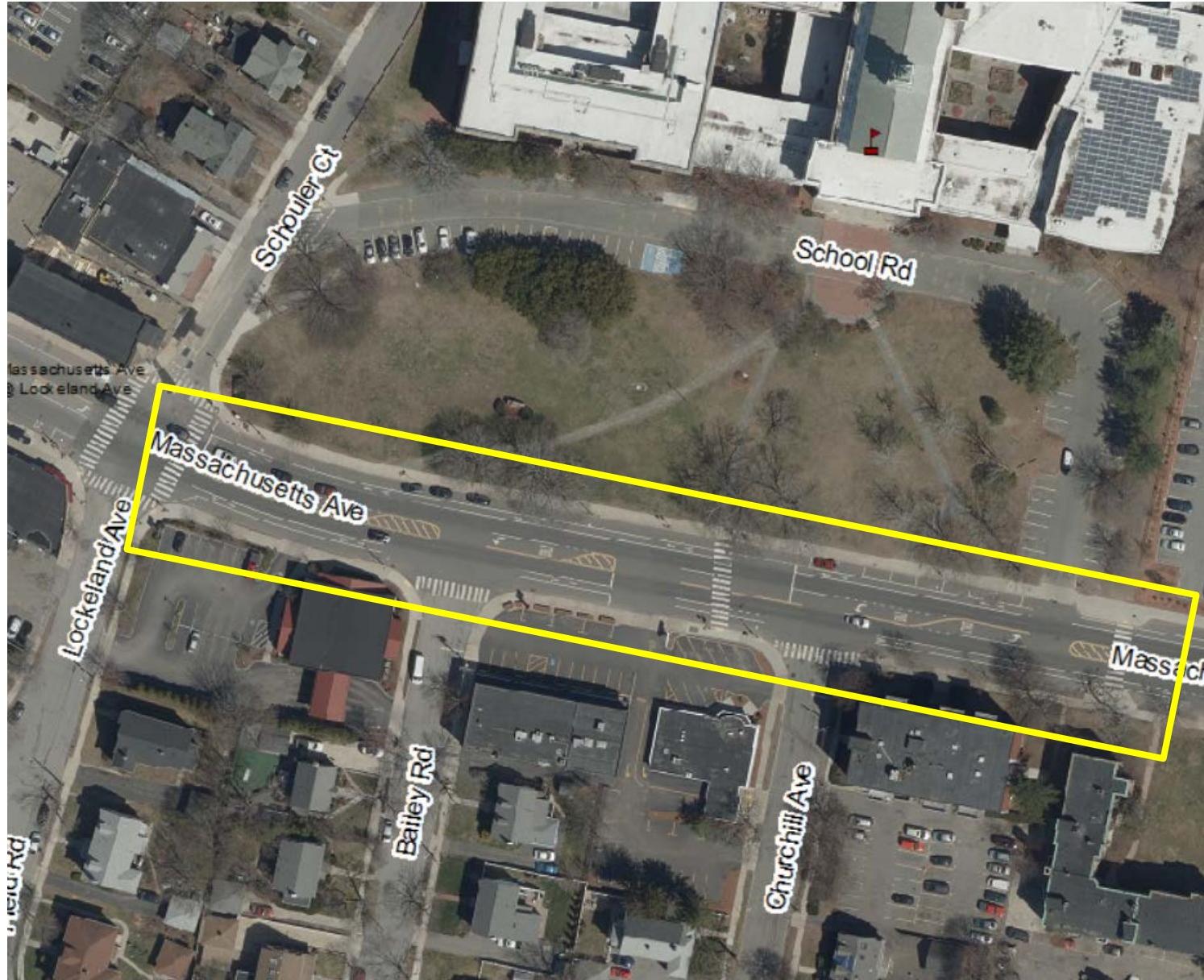
Web site: www.arlingtonma.gov/tac

AHS Cycletrack Concept

August 27, 2020

Daniel Amstutz, Department of
Planning & Community Development

Overview of Limits



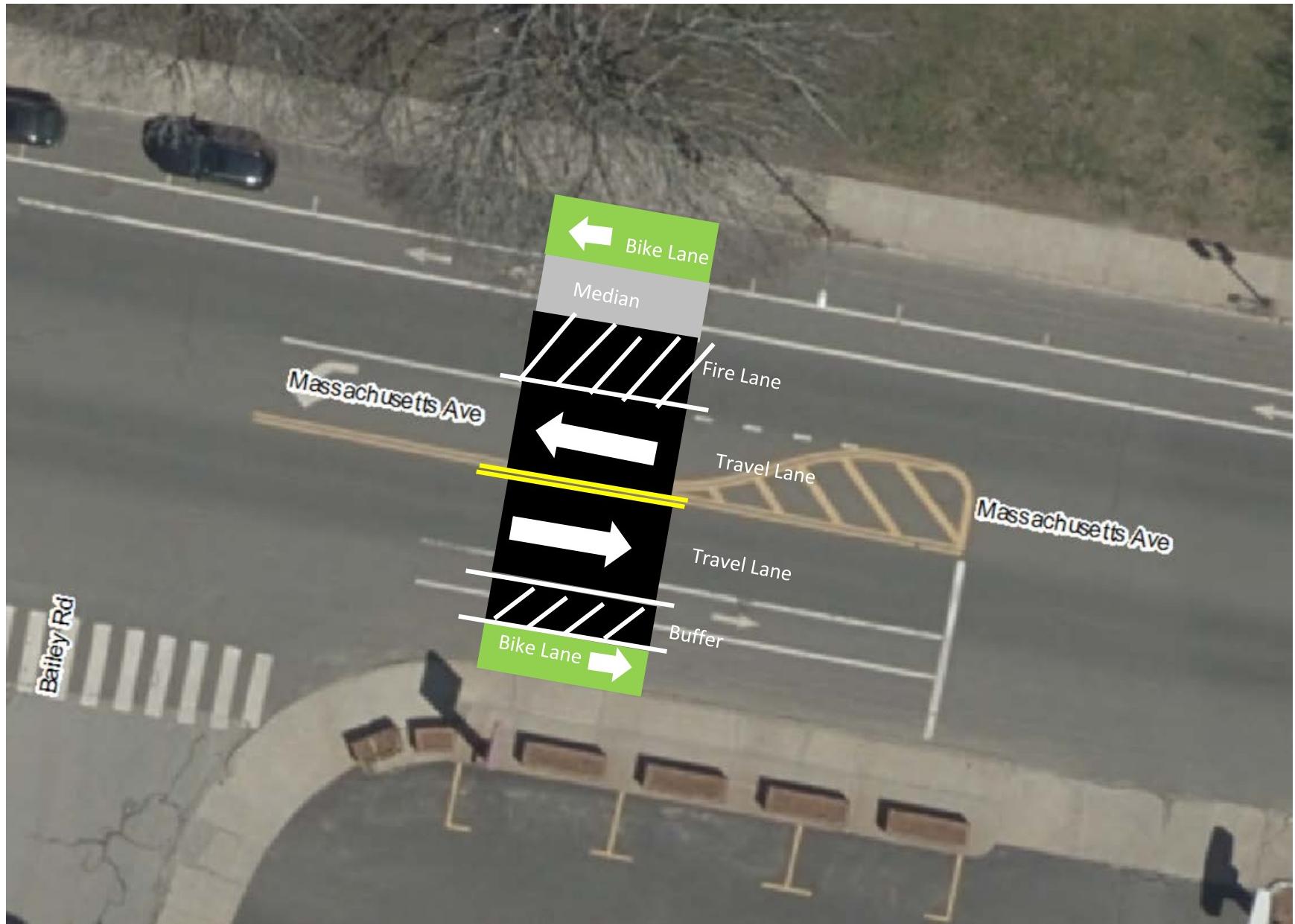
Mass Ave @ AHS Existing



Mass Ave @ AHS with Cycletrack (v.1) (Looking East)



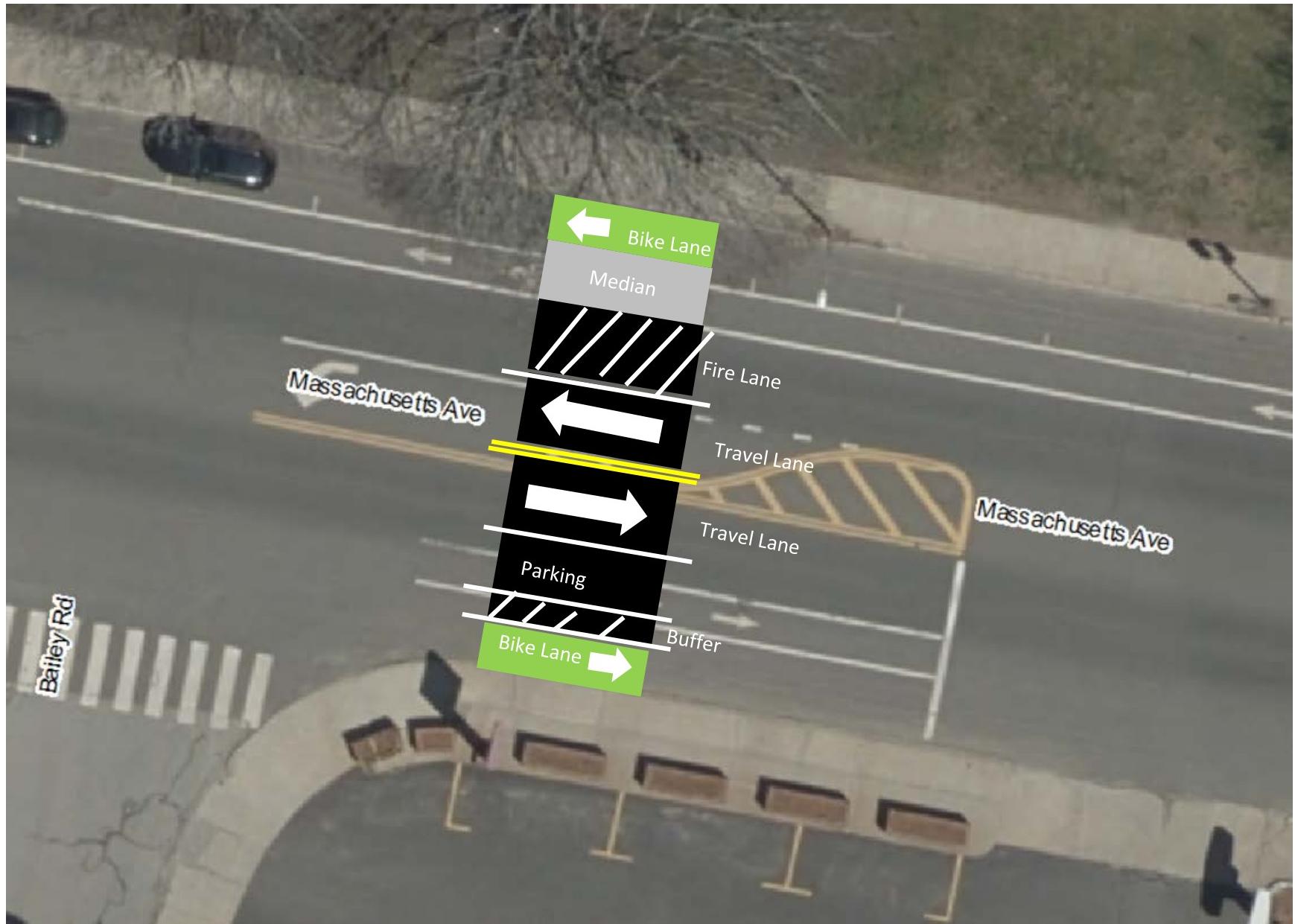
Top-Down View (version 1)



Mass Ave @ AHS with Cycletrack (v.2) (Looking East)



Top-Down View (version 2)





MEMORANDUM

date: 01.20.2021

from: Lori Cowles

to: Traffic Advisory Committee (TAC)

re: Response to TAC's Review of the Supplemental Traffic Impact Analysis completed 09.01.20 by Bryant Engineering re: Arlington High School

OFFICE. (617) 492 2200
FAX. (617) 876 9775

130 Bishop Allen Drive
Cambridge, MA 02139

hmfh.com

TAC's memo WG Supplemental TIA 090120, section 1, indicates numerous Town efforts and with the exception of the traffic signal at Mill Street and Mill Brook, all are beyond the scope of the high school project. The memo also notes previously requested items that were not completed by the Design Team (these are under section 2, items a through e of the memo). Attached I am including the traffic consultant's proposal for the additional services. They have completed the scope of work previously approved. Please see below and/or attached for responses to the additional items requested:

- a) Clarify the assumptions about how the roadway behind the school would operate in the Build condition.

See attached site plan diagram titled "Circulation on Driveway".

- b) Provide information showing that there is sufficient room at the back of the school to accommodate expected drop-off/pick-up, bicycle, and pedestrian activity, and provide information on queuing and delay.

See attached additional services proposal for this effort.

- c) Consider how to accommodate drop-off and pick-up activity that will likely occur at the front of the school, including providing an on-site driveway or pull-out along Massachusetts Avenue.

In front of the school at Massachusetts Avenue is on-street pick-up and drop-off zone inclusive of a striped area for emergency vehicles. The project does not include an on-site driveway at the Massachusetts Avenue side of the school.

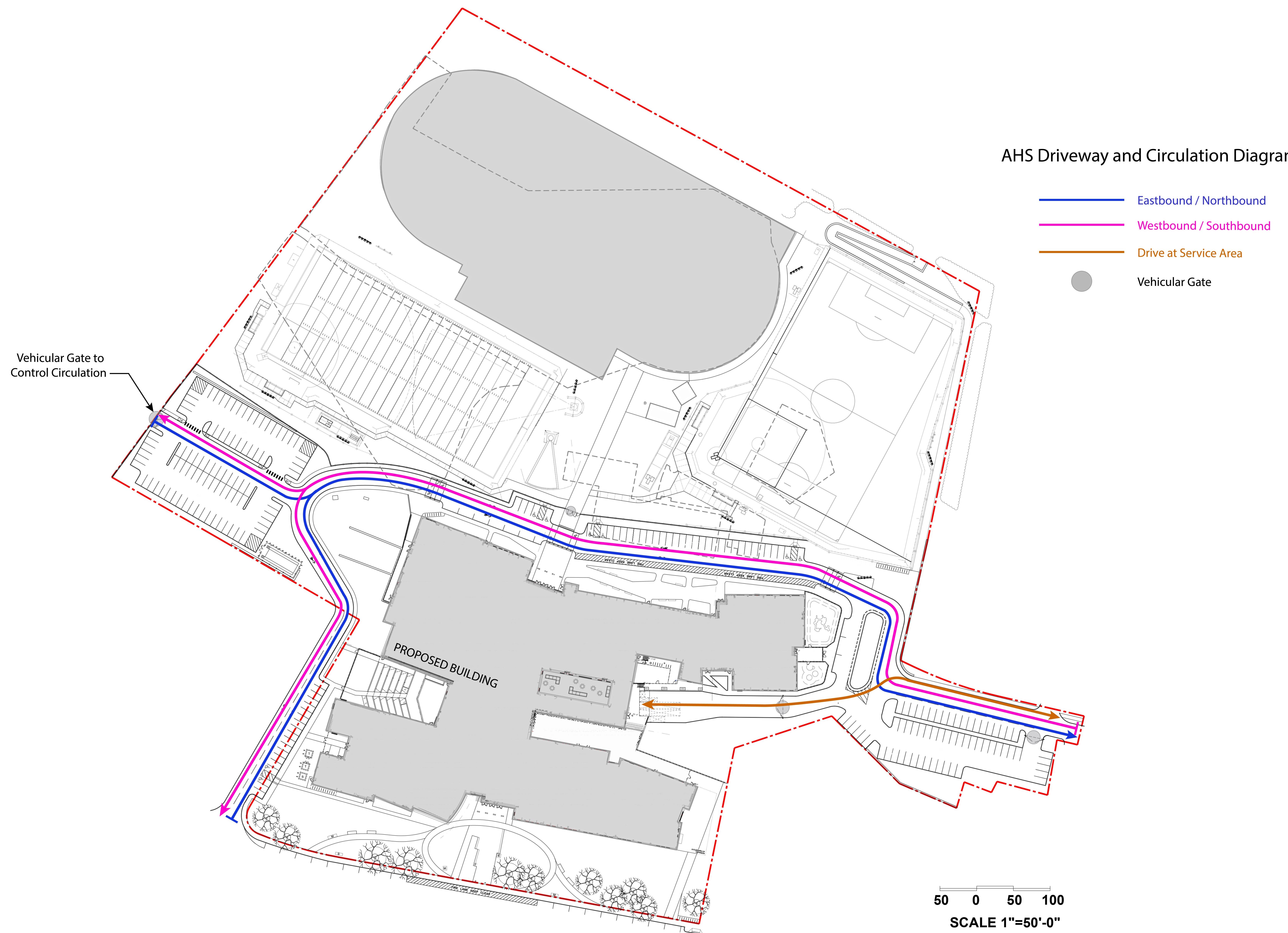
- d) Include a Build condition parking supply/demand analysis to assess the impact of future parking on area roadways.

See attached additional services proposal for this effort (there is a single proposal for both efforts).

- e) Provide a plan that shows how pedestrians will access the buildings, circulate between buildings on the campus and connect to sidewalks on Massachusetts Avenue, Mill Street and Grove Street.

See attached site plan titled "Pedestrian Circulation".

AHS Driveway and Circulation Diagram





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December 21, 2020
BAI #M17079MA/218024

Ms. Lori Cowles, AIA CFP LEED AP
Principal
HMFH Architects
130 Bishop Allen Drive
Cambridge, MA 02139

REFERENCE: *Traffic Impact Analysis – Additional Analysis
Arlington High School
Massachusetts Avenue
Arlington, Massachusetts*

Dear Ms. Cowles:

In accordance with our discussions, Skanska, Bryant Associates, Inc. (Bryant) is pleased to have the opportunity to submit this Proposal and Agreement for Additional Professional Services for the above-referenced project. Outlined herein are the description of your project, our Scope of Services, and the method and basis of compensation for our services.

PROJECT DESCRIPTION

The Town of Arlington is planning to replace the existing Arlington High School buildings, which are located on Massachusetts Avenue in Arlington, MA. As part of the review process, a traffic impact analysis for the site was required for this school project. Subsequent meetings and coordination with the Town's Transportation Advisory Committee (TAC) has identified and requested additional traffic analysis services to be investigated related to the high school site. These tasks are related to requests from the TAC outside of the base contract for the project.

SCOPE OF SERVICES

Basic Services

Task 1 – Review of Back of School Drop-off/Pick-Up Area

1. The TAC requested that information be provided showing that there is sufficient room at the back of the school to accommodate the expected drop-off/pick-up, bicycle, and pedestrian activity, including queueing and delay. Bryant will review the area at the back of the school in regard to the drop-off and pick-up, as well as bicycle and pedestrian accommodations. Review of anticipated on-site queuing at the proposed drop-off/pick-up area will be included.

Task 2 – Parking Analysis

1. The TAC requested that a parking supply/demand analysis for the build condition be provided.

Bryant will review the proposed parking supply, as well as the anticipated parking demand. The parking demand will be based on the Mode of Transportation survey that was performed for staff and students in 2018. Due to the on-going pandemic, it is anticipated that current mode usage for the school is not likely to provide accurate results for expected conditions when the new school opens.

Deliverables

Supplemental Letter: An 8 1/2" x 11" letter will be prepared describing the data collection, analysis, and conclusions and recommendations resulting from the additional analysis of the proposed school.

Outside Services

No outside services are anticipated at this time.

Additional Services

Additional services shall include, but not be limited to, attendance at meetings with you and/or attorneys, municipal agencies, departments, or public boards.

SERVICES PROVIDED BY HMFH ARCHITECTS

HMFH Architects will supply available pertinent data, including site plans, current and future student demographics, historic information, building design, etc.

PERIOD OF SERVICE

The time period for performance of the services as set forth in the Scope of Services shall be twenty-eight (28) days from receipt of a written Authorization to Proceed. Additional services may naturally add to the time required to complete the work on the project. Bryant Associates will be entitled to an equitable adjustment in the Period of Service as a result of services added.

BASIS OF COMPENSATION

HMFH Architects shall pay Bryant Associates for services rendered, as described above, a total lump sum fee in the amount of Eight Thousand One Hundred Dollars and Zero Cents (\$8,100.00).

Task 1	\$5,300
Task 2	\$2,800
TOTAL	\$8,100

HMFH Architects shall pay Bryant Associates for additional services rendered beyond the Basic Services an amount based upon accrued time for services rendered by principals and employees



Ms. Lori Cowles, AIA CEFPP LEED AP

December 21, 2020

Page 3

assigned to the project. Attendance at meetings before public boards or agencies shall be compensated at a rate of \$1,400.00 per meeting.

Bryant Associates reserves the right to renegotiate or adjust the fee accordingly if our Proposal for Services is not accepted within a 90-day period.

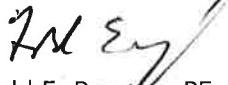
This represents our best judgment at this time as to the effort required to achieve the stated objectives. It should be recognized that, should you change the Scope of Services or corresponding level of effort upon which the proposal is based, an increase in charges may result. You will be notified of any change regarding an increase in charges, and we will not exceed the recommended budget without your approval, nor will we be required to work beyond the approved budget.

ACCEPTANCE

This proposal may be accepted by signing in the appropriate space on the following page and returning a copy to us. Your signing of this letter constitutes your acceptance of all paragraphs included. Please do not hesitate to consult with us concerning any questions about this Agreement.

Thank you for the opportunity to submit this additional work proposal. If you have any questions, please do not hesitate to contact me at (401) 834-1063 or tbrayton@bryant-engrs.com.

Very truly yours,
BRYANT ASSOCIATES, INC.


Todd E. Brayton, PE
Director of Operations – Rhode Island
Transportation Director

TEB:



Ms. Lori Cowles, AIA CEEP LEED AP

December 21, 2020

Page 4

This Proposal for Services is hereby accepted and executed by a duly authorized signatory who, by execution hereof, warrants that he/she has full authority to act for, in the name of, and on behalf of HMFH Architects.

AGREED TO BY: HMFH ARCHITECTS

Signature

Date

Printed Name

Title



AHS Pedestrian Circulation Diagram



Arlington High School: Evaluation of 100% Construction Documents

HMFH Architects responses are included in red below. 2/23/2021

Significant Issues Found in Drawings

A. Requirements

Multi-user Toilet Rooms

- Lack of accessible toilet compartments in most multi-user toilet rooms. Per 2010 ADA Standards: 213: In new construction, access is required to all toilet rooms, including those for employees. 213.2: Where multi-user toilet rooms are provided, accessible unisex toilet rooms cannot serve as a substitute for access to multi-user rooms, except in alterations where making multi-user rooms comply is not technically feasible Otherwise, where multi-user and unisex restrooms are provided, both types must comply. Providing an accessible unisex toilet room in addition to multi-user toilet rooms is helpful for those who use personal care assistants of the opposite sex. (See: 2010 ADA Standards: 213.2 and 521 CMR 30.1).

As designed the layout meets MAAB requirements (see snippet below). The design includes an accessible toilet stall located within the toilet area. There are no doors only toilet partitions on all the toilet stalls including the accessible stall. In working closing with the HS administration and they in-turn with the various constituency groups, the design provides a gender-neutral toilet prior to the user having to decide whether they identify as boy or girl.

ADA does not allow for this type of arrangement. The design team has revised the layout (revising the second gender-neutral toilet to be accessible and reorienting the entries to the accessible toilets). This layout has been reviewed by and is acceptable to ADA as well as the HS administration.

521 CMR 30.00: PUBLIC TOILET ROOMS

30.1 GENERAL

Each public toilet room provided on a *site* or in a *building* shall comply with 521 CMR.

- a. In each adult public toilet room, at least one water closet and one sink in each location shall be *accessible* to persons in wheelchairs, or a separate *accessible* unisex toilet room shall be provided at each location. Adult water closets shall comply with the provisions of **521 CMR 30.1 through 30.13**.
- One urinal in each toilet room should be mounted with the rim no higher than 17" above the finished floor. (See 2010 ADA Standards: 213.3.3 and 521 CMR 30.10).
One urinal at each toilet room will be mounted at 17" AFF.
 - Ensure baby changing tables are accessible. (See 2010 ADA Standards: 205, 226, 309, 204, 307, 305, 902)

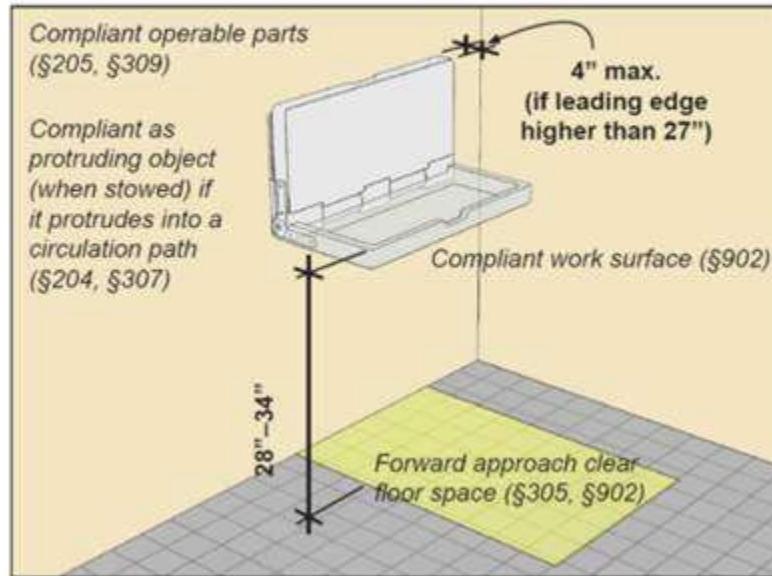


All baby changing tables meet the height requirements. The project has one adult changing table and though no such dimensional requirement exists for adult changing tables, we will adjust the adult changing table height by 1" to match the baby changing table height requirements.

Baby Changing Tables

[§226]

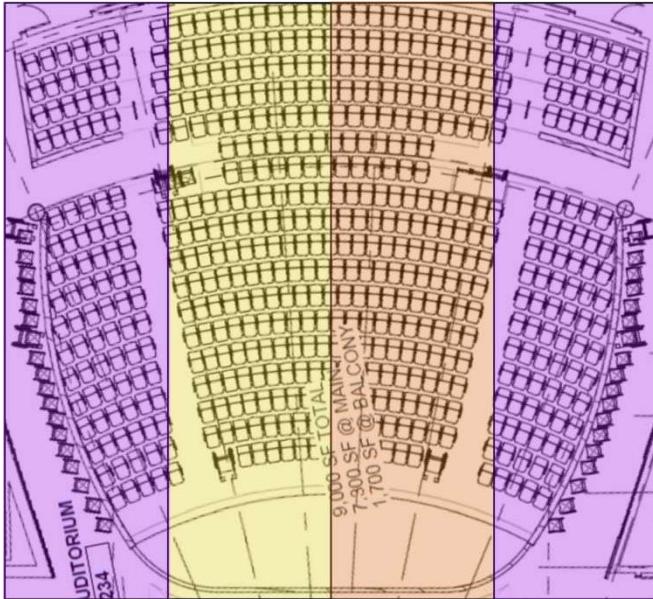
Where baby changing tables are provided, they must comply as a work surface and, if they project into circulation paths, as protruding objects.



Assembly Areas

- In the gym bleachers, integrated wheelchair spaces are not represented in the drawings where the capacity is listed as 2286. IHCD recommends that HMFH confirm with the manufacturer that if the bleacher seats 2286, then 18 wheelchair accessible seats are provided alongside companion seats.
(See 521 CMR 14.1, 2010 ADA Standards 221.2.1.1 and 221.2.2).
The Project Manual specifications require the bleacher design meet accessibility requirements. HMFH will confirm this requirement is met upon receipt/review of the product submittal.
- Provide required compliant aisle designated seats per ADA 2010 in all assembly areas, including D Lab and the auditorium.
(See 521 CMR 14.2.1, 2010 ADA Standards 221.4).
The Project Manual specifications require aisle seat designations to meet accessibility requirements. HMFH will confirm this requirement is met upon receipt/review of the product submittal.
- Provide 2 additional accessible spaces in the D Lab and ensure that they are aligned shoulder to shoulder with companion seats.
(See 521 CMR 14.2, 2010 ADA Standards 221.2.1.1 and 802.3.1).
The seating layout has been modified to allow for two additional wheelchairs.
- Seating is not horizontally dispersed in the auditorium. Per the 2010 ADA Standards, 221.2.3: "Wheelchair spaces shall provide spectators with choices of seating locations and viewing angles that are substantially equivalent to, or better than, the choices of seating locations and viewing angles available to all other spectators."
Based on the drawing only 2 wheelchair spaces (and 347 seats) are provided in the most desirable second and third quartiles of the auditorium. The majority of wheelchair accessible spaces are located in the perimeter in the first and fourth quartiles (6 wheelchair accessible spaces and 226 seats). As 60 percent of seating is provided in the second and third quartiles, 60 percent of wheelchair spaces (5 spaces) should be provided in the second and third quartiles (See also 521 CMR 14.4)





In the construction drawings we did not graphically show a wheelchair at every available wheelchair location. See attached Auditorium diagram with the accessible seating noted. There are ten (10) locations dispersed within the central seating zone of the auditorium (inclusive of the balcony's central seating zone).

Per CMR 14 – a total of 9 accessible seats are required.

Per ADA 221 – a total of 8 accessible seats are required.

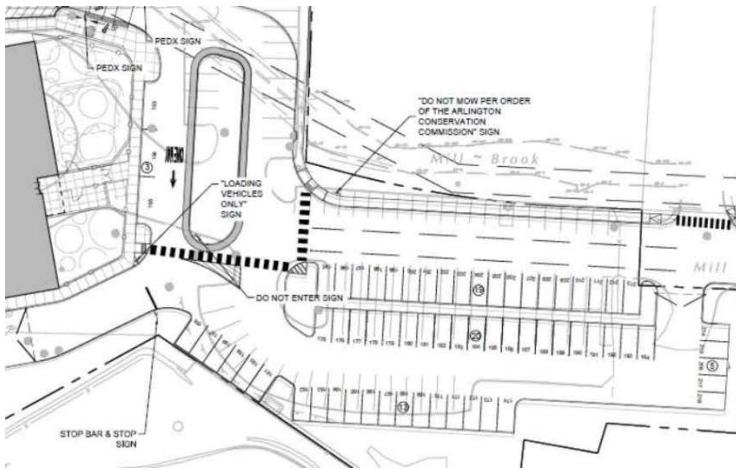
(Additionally, there are upwards of 18 more wheelchair locations (inclusive of companion seat) along the side aisles.)

Parking

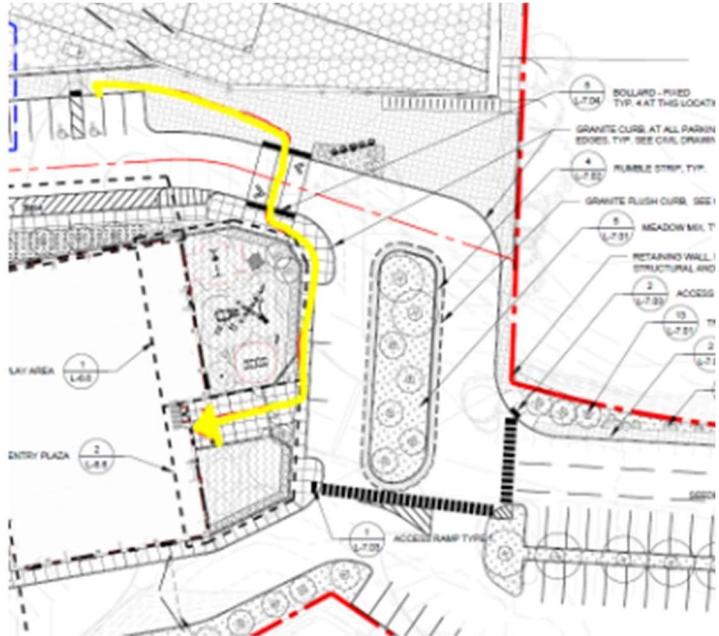
- Accessible parking spaces are not provided in the lot by the Pre-School. Based on the parking count of 66 spaces, provide one van accessible and two car accessible parking spaces by the main entrance. Per the 2010 ADA Standards: 208.3.1: "Accessible parking spaces must be located on the shortest accessible route to an accessible entrance, relative to other spaces in the same parking facility." 208.3.1: Exception 2: "Accessible spaces required for one parking facility can be located in another if doing so results in substantially equal or better access in terms of travel distance to an accessible entrance, parking fee, or user conveniences such as protection from weather, better security and lighting." The spaces located in the north lot do not provide substantially equal or better access. (See also 521 CMR 23.2.3).

The east parking lot does not have an accessible route to the building due to topography/ grade configuration. The accessible route to the Preschool entrance is as shown below. The route includes a raised crosswalk for safety. The two spaces to the east were not selected as accessible spaces due to the likely use as temporary snow storage. Additionally, these accessible parking spaces also serve those visiting the School District Offices whose entry is just to the west.





The accessible route:



- Ensure that 5 percent of on-street parking spaces on Mass. Ave. are accessible per guidance from Massachusetts Office on Disability on the overarching obligations of a Title II entity to ensure that their programs and services are accessible to, and usable by, persons with disabilities: <https://blog.mass.gov/mod/access/accessible-on-street-parking/>

As designed, the area along Mass Avenue does not have parking spaces, it is striped for emergency vehicle access and live pick-up/drop-off only. There are accessible spaces to



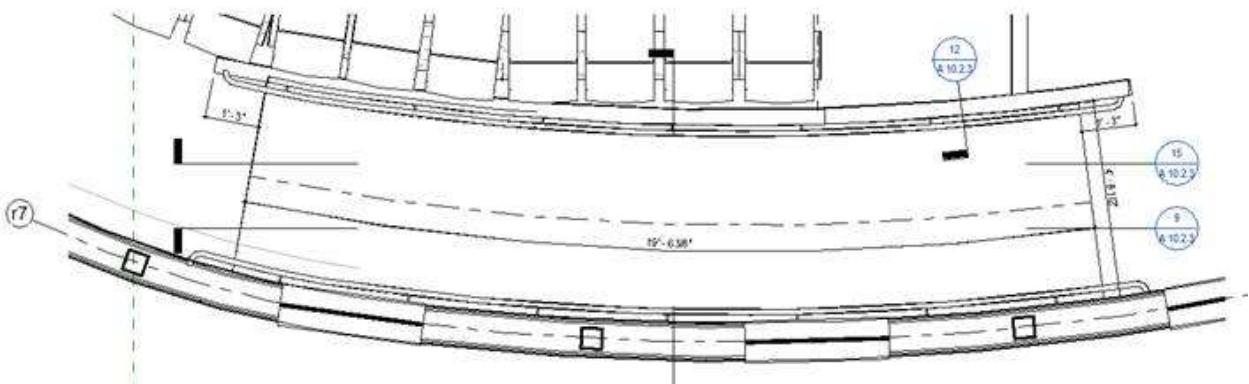
the west on Schouler Court that serve as the closest accessible parking to the Mass Avenue side building entrance.

Miscellaneous

- Provide a compliant bench in every different type of locker room and dressing room. (See 521 CMR 33.1 and 2010 ADA Standards 903 and 222.1)
The Project Manual specifications require compliant benches in each location where benches are in use. HMFH will confirm this requirement is met upon receipt/review of the product submittal. Each of the dressing rooms will be provided with a bench.
- Ensure science lab emergency equipment is within reach range. Provide at least one accessible sink in each lab. (See 521 CMR 12.4 and 39.1 and 2010 ADA Standards 212.3, 606, 205.1 and 309).
Every location that there is a minimum of one sink, there is an accessible sink, inclusive of all 17 science labs. The emergency equipment is within accessible reach range.
- Standing height drinking fountains are required per ADA and the height should be specified with mounting heights. If they are located in the circulation route, often times they may act as a protruding object and they need a cane detectable barrier skirt.
“Where drinking fountains are provided, access is required for both people who use wheelchairs and for standing persons. This dual access must be provided on each floor of a facility equipped with drinking fountains, as well as an exterior site and each secured area of a building where drinking fountains are provided. Where one unit is planned in any of these locations, at least two units or a combination high-low unit must be provided for dual access in each such location. If multiple units are planned on a floor, exterior site, or secured area, then 50% must be wheelchair accessible and 50% accessible for standing persons (rounding up for either type in the case of odd numbers).” (See 2010 ADA Standards 602.7, 307 and 211).
The drinking fountains are located so as not to act as a protruding object in the path of travel. We designed per MAAB and have the low accessible drinking fountain at every location plus provided two bottle fillers at every location per the school needs because water bottles are heavily used by the students. We were unaware of ADA’s requirement that the high drinking fountain is also considered an accessible unit and are required wherever there is a low drinking fountain. We will modify to ensure 50% of the drinking fountain locations per floor will include a high drinking fountain.
- Padded shower seats are required per 521 CMR in accessible showers. (See 521 CMR 31.7.4c).
The Project Manual specifications require compliant shower seat, though in detail the specification calls for non-padded seat. HMFH will confirm this requirement is met upon receipt/review of the product submittal.
- A shower spray unit attached to a flexible metal hose at least 60 inches and adjustable from 42 inches to 72 inches. (See 521 CMR 31.7.7 and 2010 ADA Standards 608.6).
The Project Manual specifications require an adjustable shower spray unit. HMFH will confirm this requirement is met upon receipt/review of the product submittal.



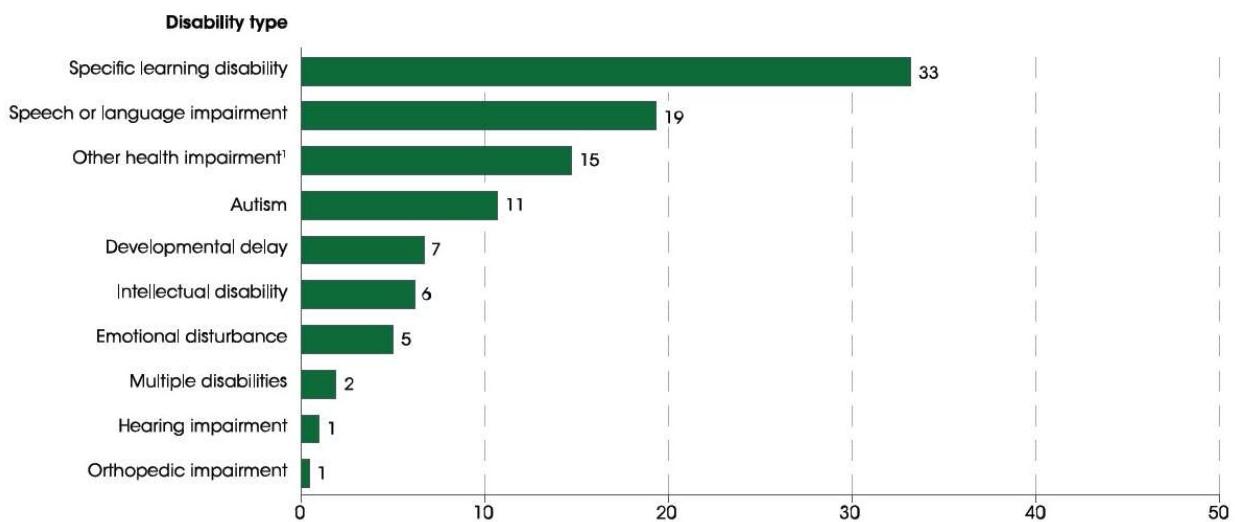
- D Lab ramp: Circular ramps often present issues with cross slope. Construction should be carefully monitored to ensure that the cross slope does not exceed 1:50 (2%). (See 2010 ADA Standards 405.3 and 521 CMR 24.6)
Understood and construction will be monitored.
- D Lab ramp handrails: Ramp extensions must return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run. The way that these handrails project out, they may catch on things. Per 521 CMR, ends of handrails shall be either rounded or returned smoothly to floor, wall, or post. (See 2010 ADA Standards 505.10.1 and 521 CMR 24.5.9).
All handrails as designed return to the adjacent wall, including at the D Lab ramp, see plan diagram below.



B. Changing Reality of Youth with Disabilities

It is important to note the current statistics regarding children and disabilities so that the needs of all will be considered in the final design:

Figure 1. Percentage distribution of students ages 3–21 served under the Individuals with Disabilities Education Act (IDEA), by disability type: School year 2018–19



Among children and youth, emotional, behavioral, and neurological reasons for disability dominate physical reasons. Cognition has become the second most prevalent reason for disability among adults at 10.8 percent of the population. And it is the undeniable leading reason for disability among children and youth. Twenty percent of children ages 13-18 currently have and/or previously had a seriously debilitating mental disorder. For children 3-21, 14 percent or 7.1 million who received special education services, 33 percent had specific learning disabilities. An additional 2.3 percent of the school-age population have 504 plans who have conditions like food allergies, diabetes, some anxiety disorders, and mild ADHD. The Americans with Disabilities Act and Massachusetts Architectural Access Board have not caught up with the latest statistics and primarily focus on specific codes and recommendations for mobility disabilities; however the Town is required by law to provide equal access to all programs to all students, parents and the school community. For this reason, it is crucial to consider bringing the following best practice recommendations into the project.

C. Best Practices

Safety

- Provide tactile and visual nosing on the large Forum social seating steps. IHCD recommends a contrasting rubber nosing: an option on rubber treads with nosings that come in lots of colors and is fire-rated. <https://kofflersales.com/p/roppe-stair-treads-square-design.asp>
The forum seating is made of wood and will have a contrasting color wood nosing at each seat.
- At the Forum social stair provide clear demarcation between the travel area and seating area.
The forum stairs are of terrazzo (with tactile contrasting stair tread nosing) with handrails located between the stairs and the seating (which is of wood).

Inclusive Design

- Provide wayfinding to accessible routes that are tucked away, such as at the elevator around the corner from the main entrance.
The floor patterning will in part be dictated by the floor material and will be designed with wayfinding as a main consideration.
- Use flooring patterns and changes in materials to aid with wayfinding.
The floor patterning will in part be dictated by the floor material and will be designed with wayfinding as a main consideration.
- Provide adequate light at each room designation sign and within toilet rooms.
The school building is designed with appropriate lighting in all areas.
- Provide accessible electric vehicle charging station based on count of overall electric vehicle charging stations, based on US Access Board recommendations.
At this time there are just two charging units located within an accessible route to the school. The school site is designed (with infrastructure in place) to have an increased quantity of electric vehicle charging units that are to be located within the accessible



route to the school, upon review the District may elect to put some of the increased quantity of charging units at accessible parking spaces.

Provide additional accessible parking spaces in the west parking lot that go beyond the requirements in the ADA and 521 CMR.

There is no accessible route from the west parking lot to any building entrance.

- Consider the position (next to the podium) of an American Sign Language interpreter along with lighting that would make signing visible if the lights were dimmed in the auditorium. Similarly, consider the location of a smaller CART (Computer-Assisted Realtime Translation) screen that can be easily be lowered when CART is used.
The fixtures are portable with numerous places to hang them, the school will be able to spotlight an interpreter.
- Students with learning disabilities often benefit from the following:
 - Simple and structured spaces that can help overcome difficulties with spatio-temporal orientation
 - Provide sub-areas for various activities within the classroom, often achievable by movable panels and furniture
 - Provide nearby small rooms or alcoves for individualized learning and relaxation

As designed the new school will have numerous small rooms and corridor break out areas. Furniture is flexible to be configured as the educators deem appropriate.
- Provide a matte finish on all floors and walls including the terrazzo (see all terrazzo floors at Logan Airport). Shiny surfaces can be disorienting for people with a variety of conditions, including people with autism, migraines, low vision and people who wear glasses as well as often slippery when wet.
The typical flooring is linoleum which is not a shiny material. The main lobbies and cafeteria flooring are terrazzo and will have a matte finish.
- Provide wallboards on all walls except on exterior walls near windows with low sills.
Markerboards are provided as the educators require; providing additional or extensive quantities of markerboard will add cost to the project.
- Recommend having the low edge of wall boards at 27 inches or less above the floor to maximize the surface within the reach range of a seated person or person of short stature.
Markerboards are non-custom sized, to increase as suggested would require custom markerboards which will add cost to the project.
- Provide quiet spaces and alcove areas, as well as spaces for individualized learning that are secluded from ambient noise. Carve out nook spaces within the corridors by the classroom doors that strike a balance between social arrangements that allow people to interact casually and serendipitously, and arrangements that allow students to be by themselves and avoid others if they choose. We recommend that these areas have access to daylighting and views, which could also provide wayfinding cues to visitors in the repetitive STEAM and Humanity wing corridors.
All corridors in the new school have break out spaces, natural light and access to views.
- Provide sensory rooms for students with sensory related disabilities.



As designed the new school will have numerous small rooms to be used as deemed appropriate by the educators.

- Provide changing tables outside of accessible compartments so that people who need the accessible toilets are able to use them.
While we understand the underlying reasoning for this ‘best practice’, we offer the following as to why we do not comply:
 - we do not have the floor space
 - we have three handicap toilets each with a baby changing table at each of the community use toilet groupings (at the auditorium, gymnasium, and cafeteria) – this goes above and beyond the typical quantity of baby changing locations, providing high quantity of alternative locations
 - there is trade off either of providing privacy for the changing table user or providing exclusive use for the toilet user
 - (please note: as designed the new Arlington High School will have 75 accessible toilets)
- Note that even for visually impaired people, sight cues can be useful. According to the American Federation for the Blind, 85% of all individuals with visual impairments have some remaining sight.
 - Contrasting colors between important building elements. These can add definition between walls, doors, and stairs.
 - Signage should have contrasting colors, big letters, and pictograms.

Understood that contrasting colors benefit the visually impaired and we are including this in our consideration of floor patterning, etc. The signage is designed/specify to meet MAAB and ADA requirements. The project includes oversize signage/big letters at shared use spaces and pictograms at toilets.

Disability Commission Concerns

Disability Related Recommendations:

Items 1- 7 were responded to via a letter to ACD dated September 17, 2020.

1. All Bathrooms should have automatic door openers for wheelchair users;
IHCD: (Recommend “Wave Technology” automatic door openers for min. of one toilet room in each public area so that touch is not required).



Important areas include:



- A) By locker rooms on first floor**
 - B) By main entrance and cafeteria on first floor**
 - C) By gym on second floor**
 - D) By auditorium on second floor**
 - E) By auditorium on third floor**
 - F) Recommend one automatic door per classroom wing (north classroom wing on floors 3-5, Science classroom wing on floors 3-5.**
 - G) Additionally recommend an automatic door opener to one small music practice room.**
2. All signage should be at eye level and printed in bold dark lettering for the building's visually impaired visitors;
- IHCD: Designation signage mounting height in the drawings is only called out for 521 CMR requirements and not ADA 2010 ADA Standards. A full signage package is not available. Signage should detail the exact mounting height of raised characters and the location of braille.**
3. Hearing Loops should be strategically installed to create hearing accessible meeting rooms and conference rooms accessible for those with fitted hearing aids and cochlear implants. FM units and infrared devices should be available for use by people with hearing loss upon request;
- IHCD: Information about Assistive Listening systems is not provided on the drawings. Note: Loop technology only works for people who use hearing aids with t-coils and those with cochlear implants. People who don't use hearing aids or don't have hearing aids with t-coils (e.g., the very small digital hearing aids that are so popular) must use assistive listening systems other than loop technology. Assistive listening systems other than loop technology have two options: one for those with t-coils and one type for simple amplification for those without t-coils.**
See more detail here: <https://www.hearingloss.org/hearing-help/technology/>
4. The design of the cafeteria includes a banked area where students can sit above the main cafeteria floor area, commonly called a "social stair." Since no ramp is currently included to give wheelchair access to this area this design may prove to be discriminatory as it creates a situation where disabled students will be prohibited from entering an area that only able-bodied students can access. Such a plan will create unintentional discrimination by design.
- IHCD: With the "Forum" social stairs, we agree with you on this issue. As it is staying in the design, we suggest adding rubber treads with integrated nosings either along the whole edge of the social stairs or in a pattern in the school color palette would provide a visual orientation to the stairs for students with low vision and students with perceptual difficulties as well as increase safety.**
5. The wheelchair ramp that was proposed to connect the bike path to the school must be designed so that it can be plowed during winter months to allow year-round access to the High School from this pathway;



IHCD: As of yet, the ramp is not detailed well in the civil plans. The Town is required to keep this ramp clear. Slope and handrails are not detailed in the drawings.

6. All classrooms should be equipped with “Smartboards” to give access to those with visual impairments;

IHCD: Smart Boards are not called out specifically in the drawing set. They mainly mention marker boards and tack boards.
7. Lockers should not be located in the building’s main corridors leading to the classrooms as they will serve to impede the flow of traffic through the hallways and prevent wheelchair users from gaining access to necessary building areas.

IHCD: They tried to create locker-only areas called locker pods but lockers are present in narrow corridors on the third through fifth floor in at least two wings.
8. Access to stage from auditorium and dressing rooms.

IHCD: Based on the drawings, it looks like the stage is at the same level (76') as the floor and that there is an accessible route within the bottom level of the auditorium along the side to the stage. However it would not hurt to confirm this important detail with the architects as these details are obscured in some sections.
The stage is at the same floor level as all other spaces and corridors around it, the routes are fully accessible between the auditorium and “back of the house” spaces.

Multi-Generational Use Recommendations:

Items 1- 7 were responded to via a letter to ACD dated September 17, 2020.

1. “Inclusive Design” principles should be applied to the lighting design both inside and outside of the building so that those attending adult education classes in the evening will be accommodated;

IHCD: Lighting could not be fully evaluated in the drawing set. Fixtures are not called out in the reflected ceiling drawings. The design firm does make good use of daylight through windows in most classrooms and skylights and light wells in the corridors. IHCD recommends avoiding fluorescent lights anywhere in the school as they are known to cause problems with flicker that can trigger autism and neurological conditions including migraines.
2. The auditorium/theater should have wheelchair cut-outs along the aisles from the back of the theater to the front to allow wheelchair users and those with visual disabilities to sit where they feel comfortable and with their friends or companions. Railings and visually distinct textured stair edge plates should be installed to accommodate multi-generational use. A hearing loop should be installed to make the theater hearing accessible;

IHCD: An adequate number of wheelchair accessible seats are provided in the auditorium, including two seats in the orchestra. (See additional notes above on improving horizontal dispersion.) Aisle designated seats with retractable arms are not specified in the drawings. A hearing loop is not detailed in the drawings.
Rubber nosing will be provided in the auditorium, but it is unclear in the plan set how much it will contrast. Contrast is not depicted in the Flooring Plans.
3. Stairs throughout the building should have edge plates to make them visually distinct;



IHCD: Contrast that is tactile (abrasive nosing strips) will be provided on the travel portion of the Forum stair. It is not detailed on the other stairs. Color change and texture at the edge of each stair is recommended. A color strip is also mentioned at the end of the tread of the social stairs of the forum, but the contrast is unknown from the plan set. Providing a differing texture that is not abrasive to clothing at the edge of each sitting stair is recommended.

4. Crosswalks that lead to the High School should have extended crossing times and accessible pedestrian signals.

IHCD: This detail is not provided in the small set of civil plans.

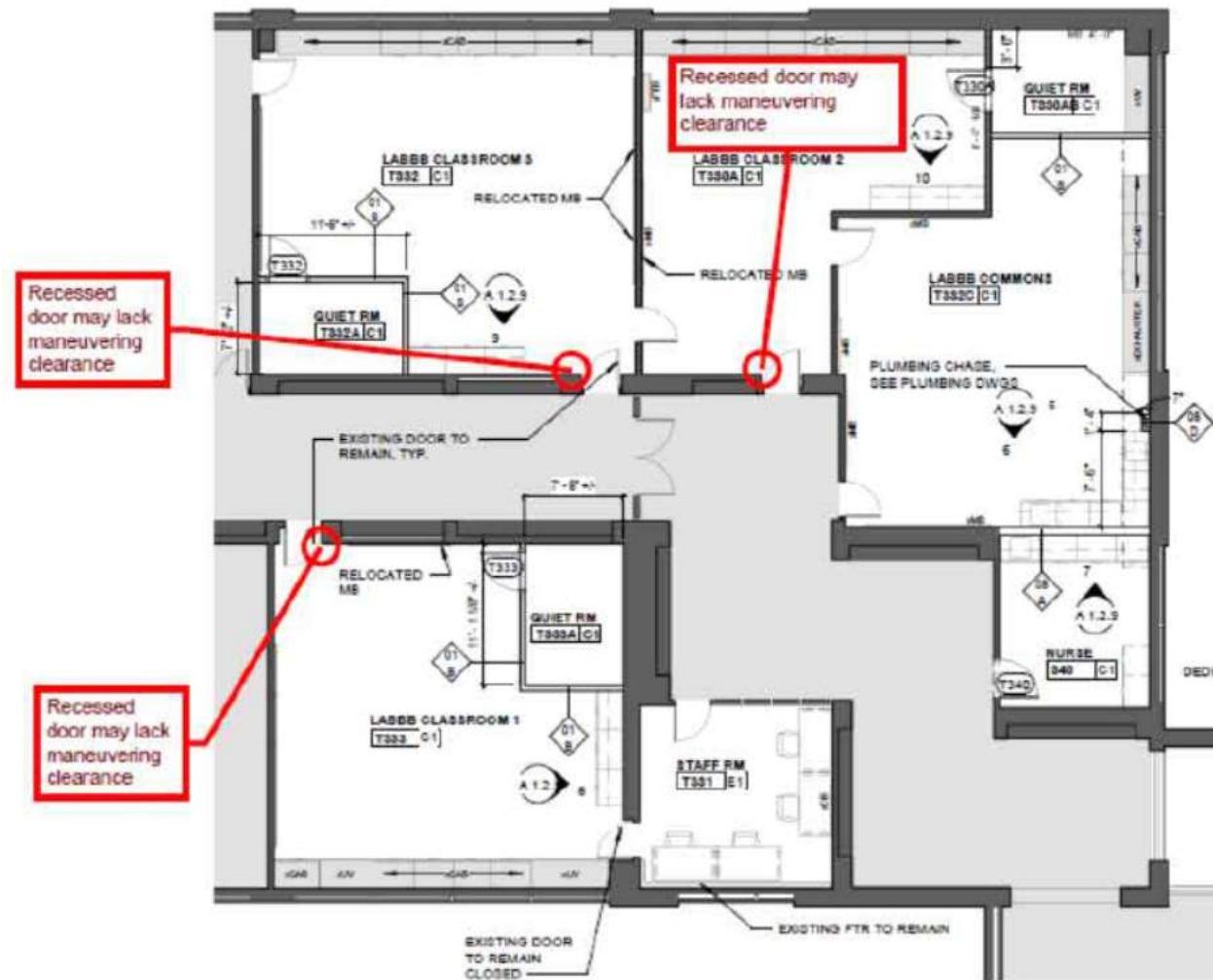


Background Drawings

A.1.2.8 LABBB Phase 2 Door Maneuvering Clearance

Requirement per 521 CMR: If doors are recessed greater than 6 inches, 18 inches of maneuvering clearance is required on the pull side.

This is an existing condition. Since the whole project is being constructed under one building permit but in phases, there is no proactive requirement to bring these rooms (which will be demolished) into compliance for the interim period.



2 PHASE 2 PROPOSED - DOWNS ENLARGED PLAN LEVEL 3
Scale: 1/8" = 1'-0"

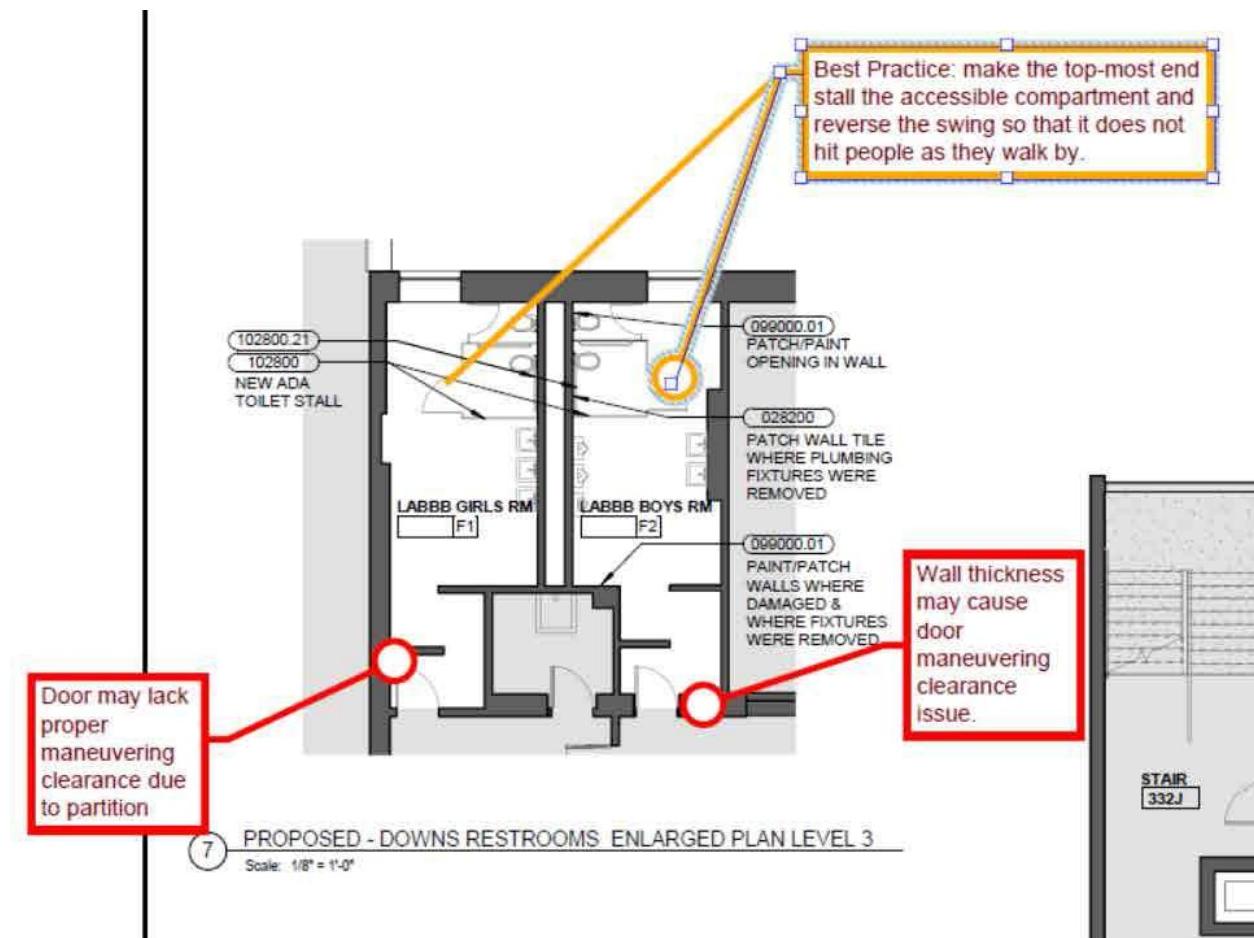


A.1.2.8 Phase 2 Labbb Toilet Rooms

Requirement per 521 CMR and ADA: Doors into the toilet rooms may lack proper maneuvering clearance due to the privacy partitions. Further detail is needed.

Also: as best practice, relocate the accessible toilet compartment on the end wall and mirror the swing of the door so that it does not hit people as they walk by.

This is an existing condition. Since the whole project is being constructed under one building permit but in phases, there is no proactive requirement to bring these rooms (which will be demolished) into compliance for the interim period. Regarding the best practice item: the plumbing fixtures are existing, only the toilet partition is new and we will change the door swing as suggested.

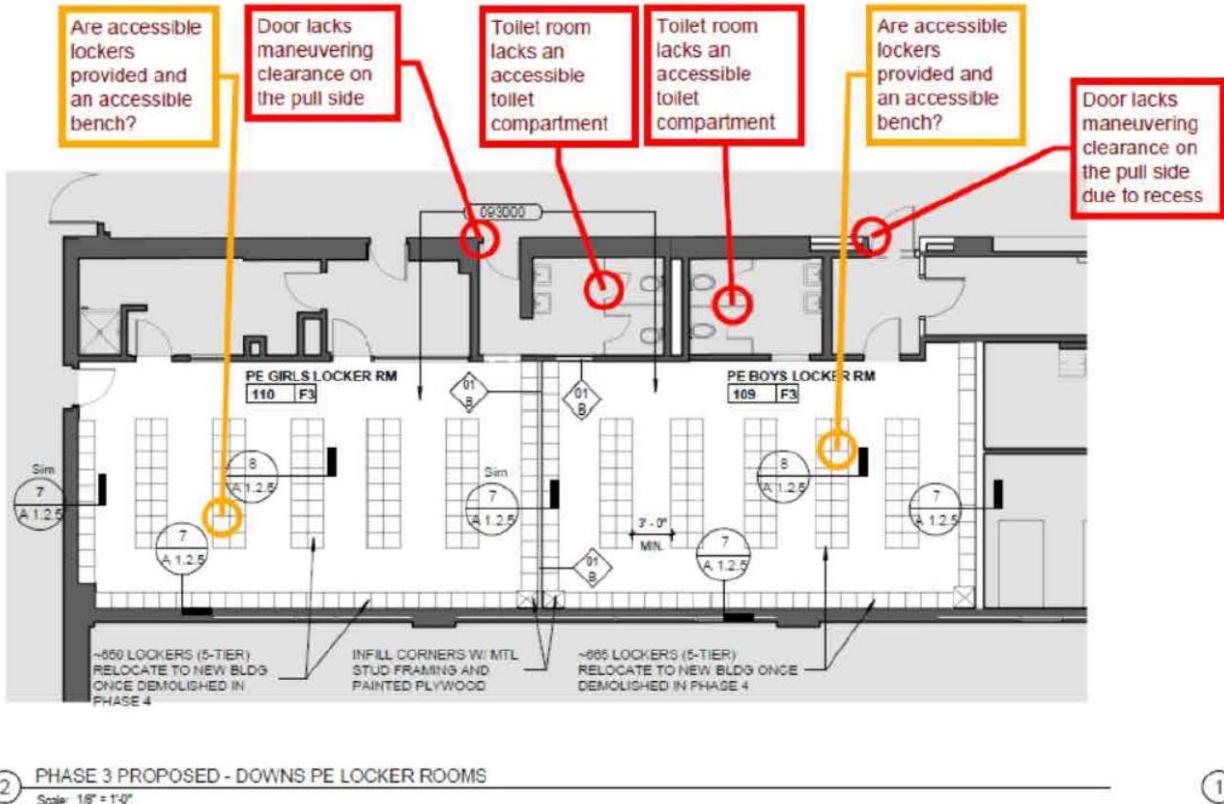


A.1.3.3 Drawing 2 Phase 3 Locker Rooms

Requirement per ADA and 521 CMR: In Phase 3 locker rooms there are issues with door maneuvering clearance going into the locker rooms, lack of accessible toilet compartments and accessible benches are not depicted in the locker rooms.



This is an existing condition. Since the whole project is being constructed under one building permit but in phases, there is no proactive requirement to bring these rooms (which will be demolished) into compliance for the interim period. The newly located temporary lockers include 5% accessible lockers. As the goal for the short-term use is to maximize the quantity of lockers, this area will not include benches, but we will provide an accessible bench in each locker room.



A.1.3.3 Drawing 4 Phase 3 Locker Rooms

Requirements per 521 CMR and ADA:

Toilet room in the top left lacks an accessible compartment.

Doors to the girls' locker room and possibly to the boys' locker room lack maneuvering clearance.

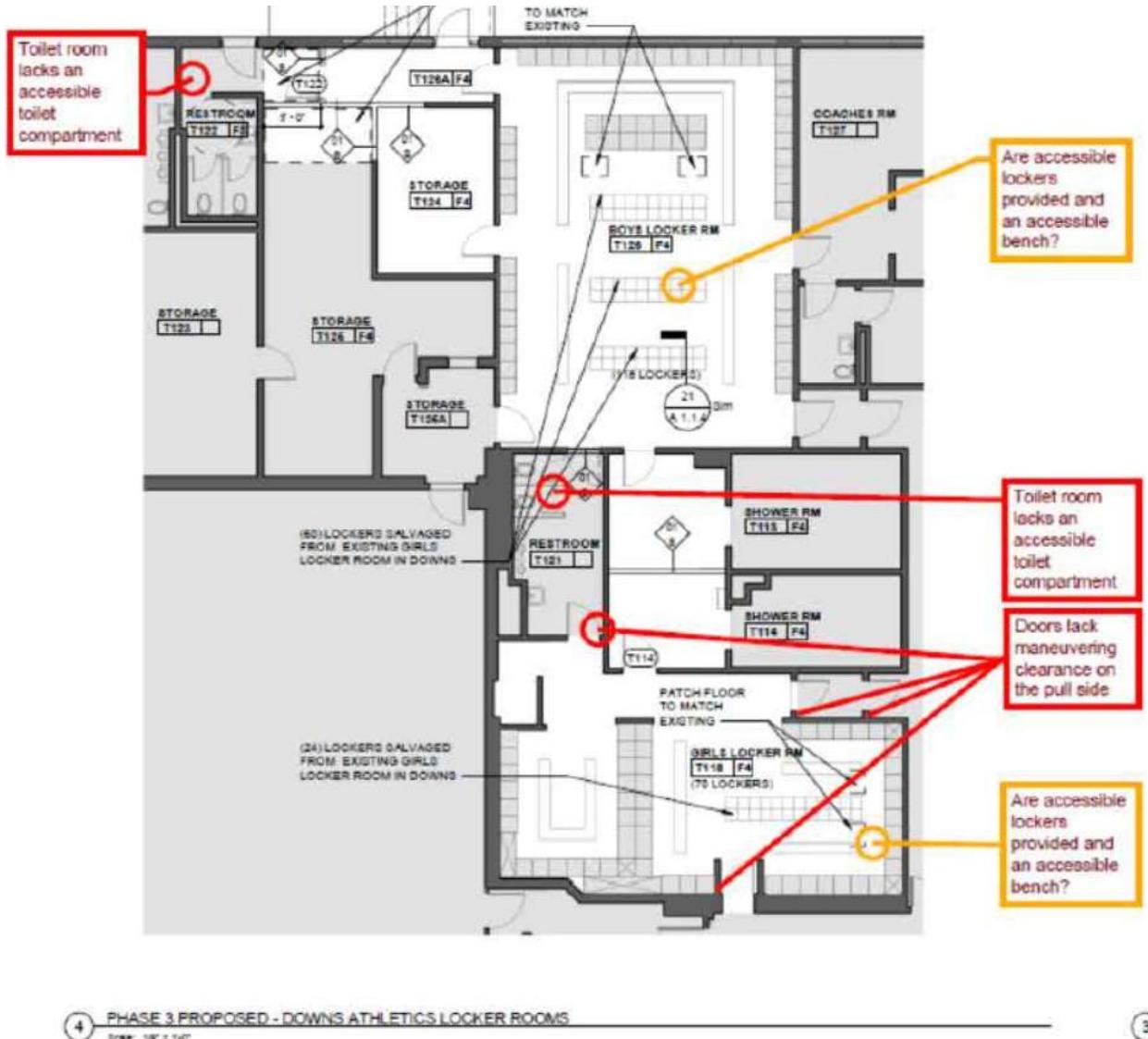
It is not clear if accessible lockers and accessible benches are provided in locker rooms. 5 percent of lockers are required to be accessible and one 24" deep bench with a back that is 48" long with space alongside it for a wheelchair user to transfer is required.

Restroom T121 lacks an accessible compartment.

This is an existing condition. Since the whole project is being constructed under one building permit but in phases, there is no proactive requirement to bring these rooms (which will be demolished) into compliance for the interim period. The newly located temporary lockers



include 5% accessible lockers. As the goal for the short-term use is to maximize the quantity of lockers, this area will not include benches, but we will provide an accessible bench in each locker room.



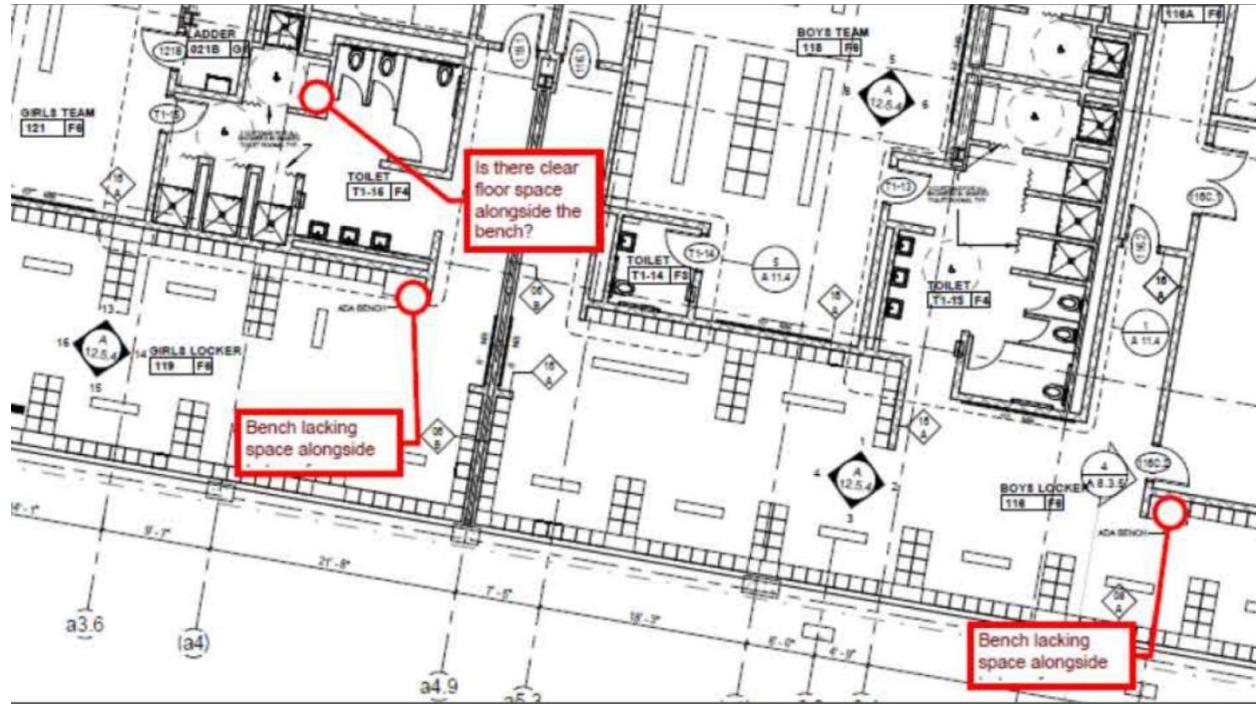
A.2.0a Locker Rooms 2 Final Phase

Requirements per 521 CMR and ADA:

It is not clear if there is a compliant bench planned for both girls' and boys' locker rooms. The drawing below does not detail it correctly. One 24" deep bench with a back that is 48" long with space alongside it for a wheelchair user to transfer is required.

The Project Manual specifications require compliant benches at each locker room location with benches to meet accessibility requirements. Thank you for pointing out the adjacency/ transfer needs, HMFH will modify the layouts to provide the required clearances.





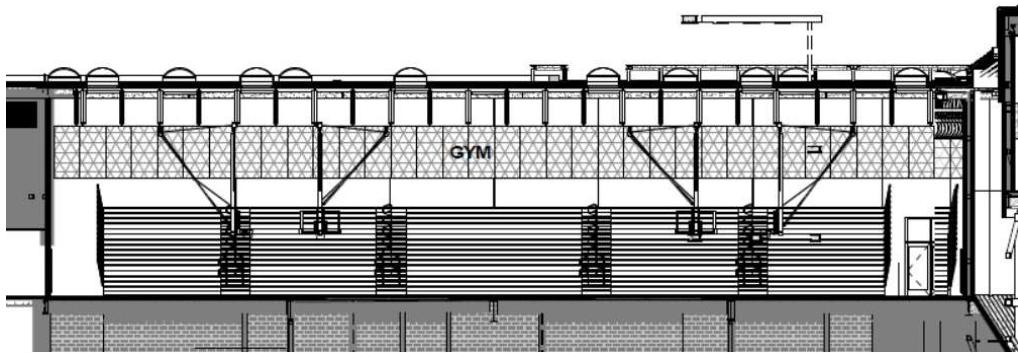
A.2.2a and A.4.1.1 Bleachers Telescoping Final Phase

Requirements per 521 CMR and ADA:

Bleachers do not appear to have integrated wheelchair spaces. Bleachers are required to have wheelchair spaces based on the seating count and comply with the 2010 ADA Standards 221.1. During the Commission on Disabilities meeting on 12.16, the architect stated that the bleachers meet these requirements, although they are not illustrated in the drawings.

This item has been responded to previously.



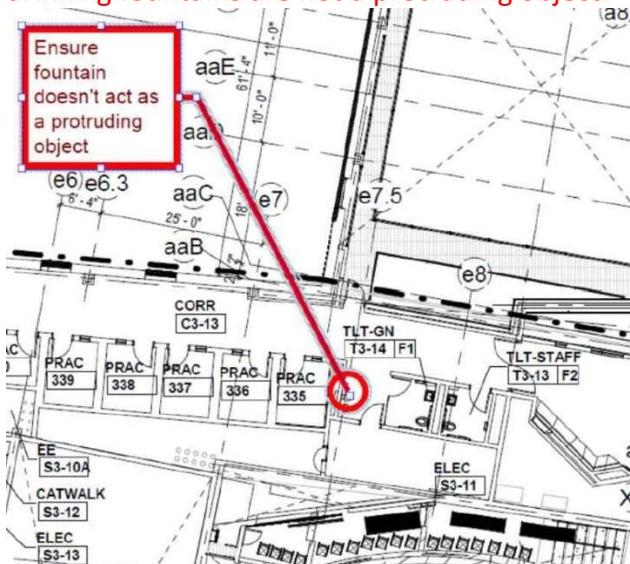


A.2.3 Drinking Fountain

Requirement per 521 CMR and ADA:

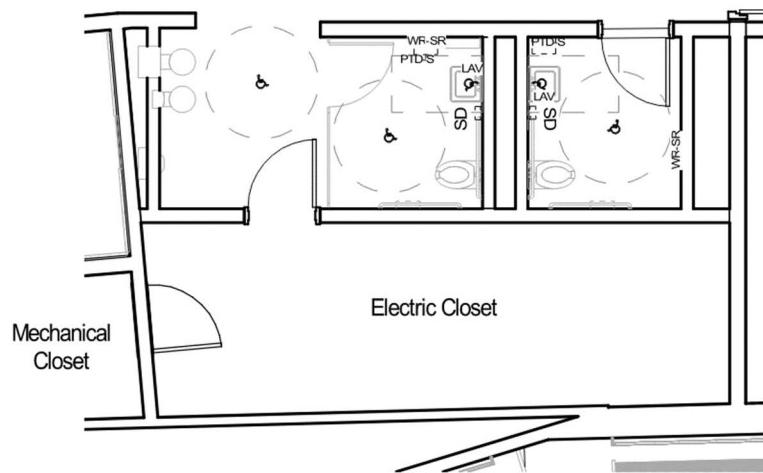
Drinking fountain in the image below may act as a protruding object.

See enlarged diagram below of this area, though this is not an accessible route because the electric room is not a public space, we do have the required clearances/floor space and the drinking fountains are not a protruding object.



Enlargement of layout showing clearances provided:





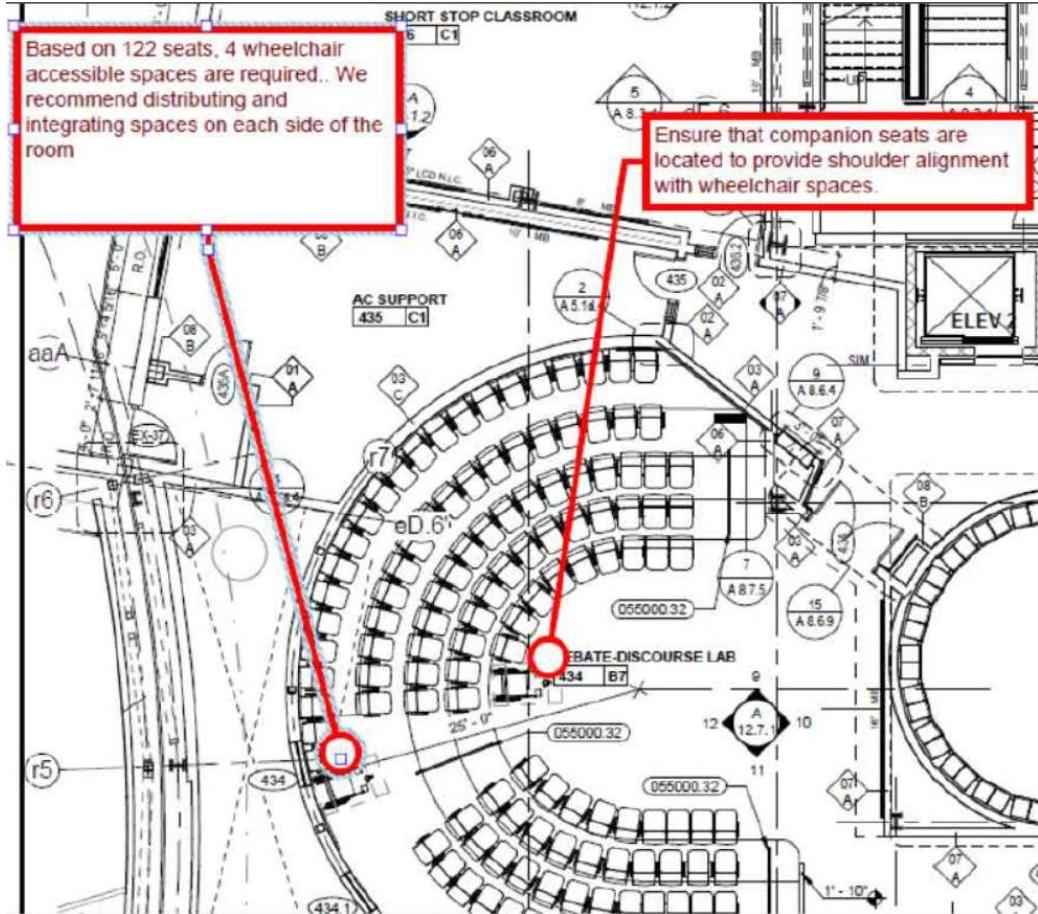
A2.4d Discourse Lab Seating

Requirements per 521 CMR and ADA:

Provide 2 additional spaces for wheelchairs and ensure that wheelchair spaces and companion seats are located to provide shoulder alignment. In addition, 5 percent of aisle seats should be aisle designated seats with folding or retractable arms.

Both items were responded to previously.





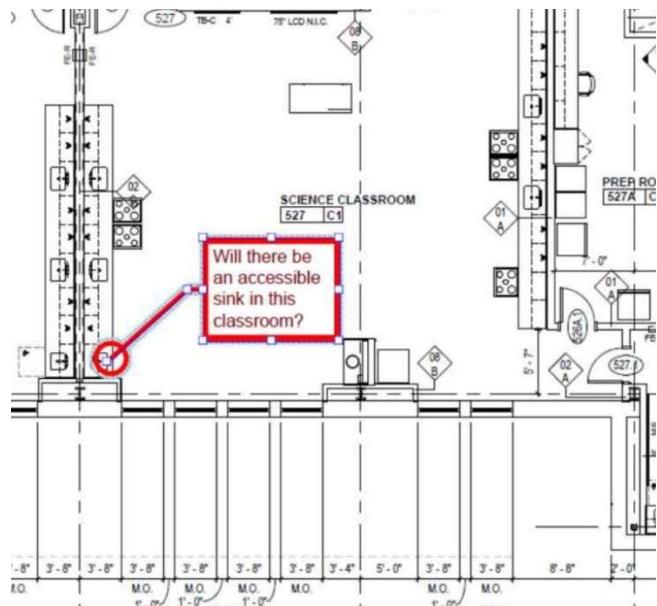
A.2.5d Lab Sink

Requirement per 521 CMR and 2010 ADA Standards:

Science Classroom 527 is not labeled as having an accessible lab sink. Provide at least one accessible sink per lab.

This item has been responded to previously. There is an accessible sink in every room that has a sink, including Science room 527.





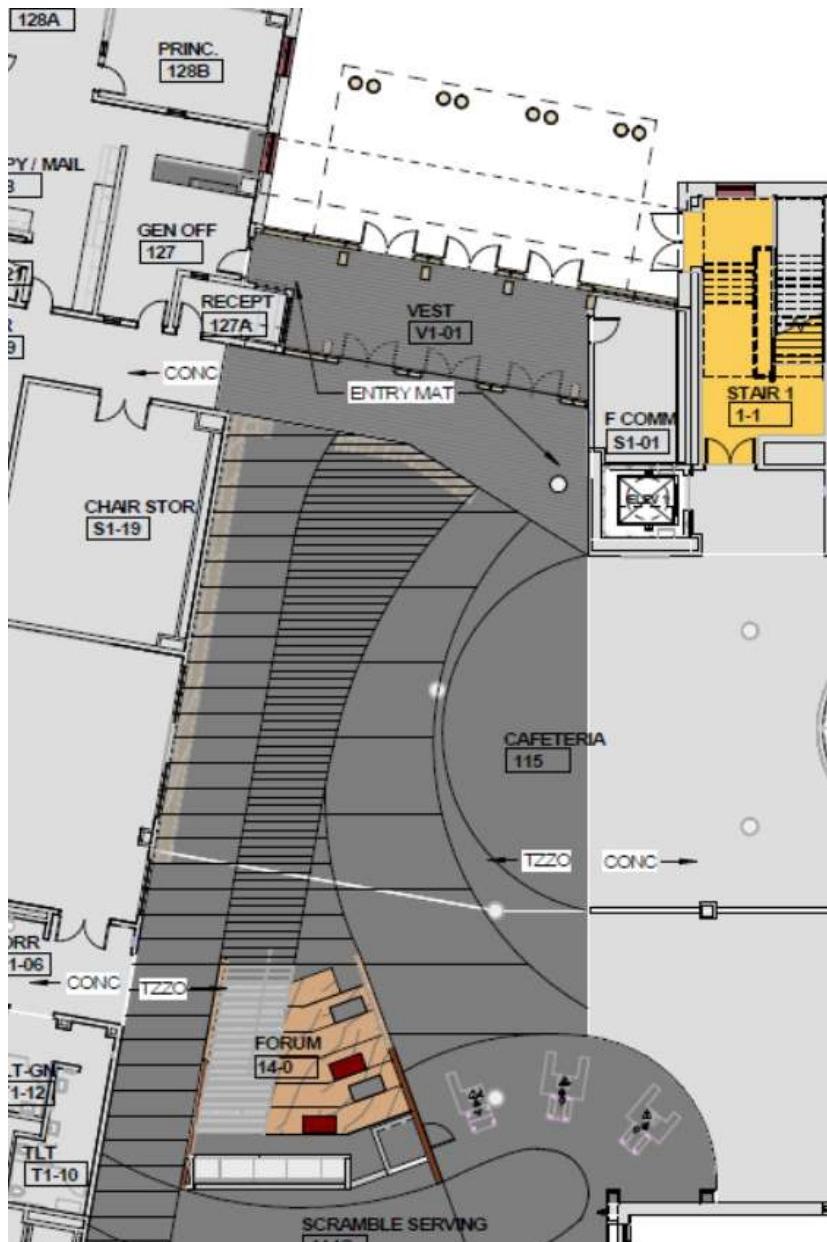
A.2.9.0 Flooring at Main Entrance

Inclusive Design:

Flooring patterns by the main entrance do assist people with finding the inaccessible circulation route, however there appears to be no similar effort in directing people to the accessible circulation routes, including the elevator that is tucked around a corner at the main entrance.

The floor patterning is to be finalized and to incorporate inclusive design considerations.



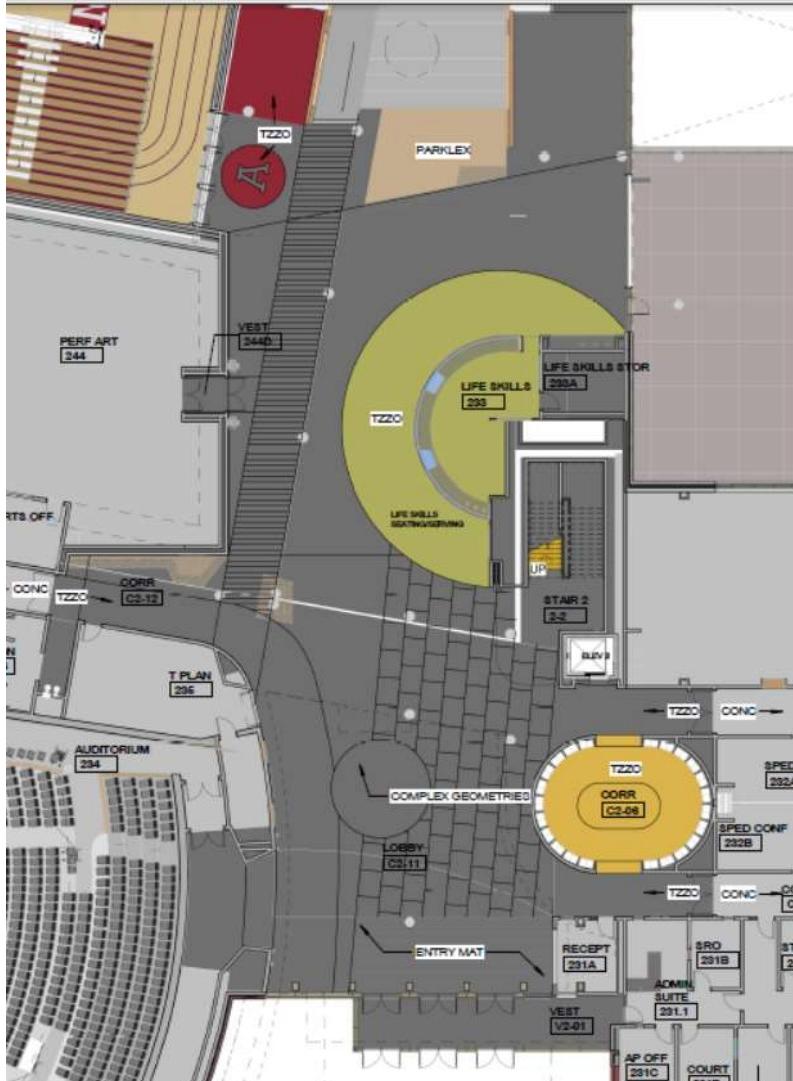


A.2.9.2 2nd Floor by Mass Ave Entrance Arbitrary Floor Patterns

Inclusive Design: Some flooring patterns by the entrance from Mass. Ave. seem arbitrary and disorienting. IHCD recommends providing different floor surfaces (including contrasting colors and textures) to define the circulation path and enhance wayfinding.

The floor patterning is to be finalized and to incorporate inclusive design considerations.



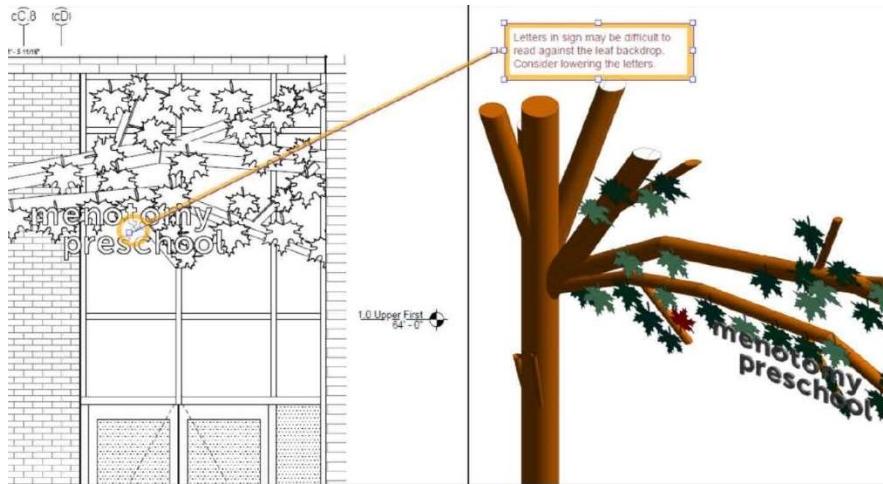


A.4.4.2 Menotomy Pre-School Sign Final

Inclusive Design: Letters may be difficult to read against the leaf backdrop. Consider lowering the letters if possible.

The contractor submittal of the letters will be reviewed/coordinated to ensure clarity.





A.9.1 Door Vision Panels

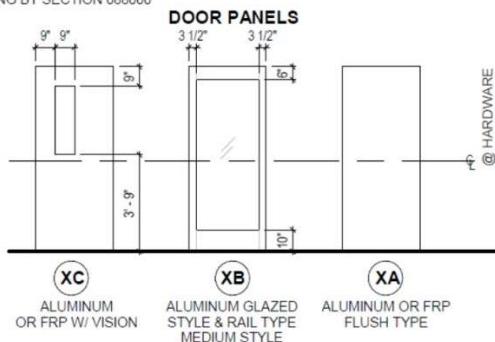
Requirement per the 2010 ADA Standards:

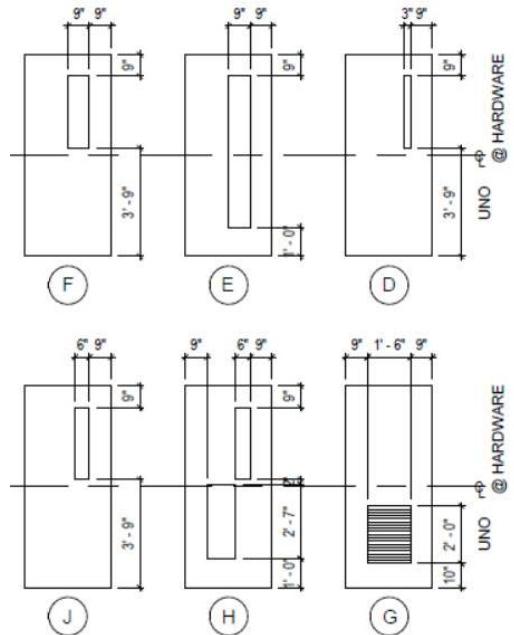
Some door vision panels are located 45" above the finished floor. ADA requires all doors containing vision panels that permit viewing through the panels have the bottom of at least one glazed panel located 43" max. above the finished floor per 2010 ADA: 404.2.11

Door vision panels will be adjusted as needed to meet the dimensional requirement.

EXTERIOR DOOR PANELS & FRAME ELEVATIONS

SECTION 084410-ALUMINUM ENTRANCE DOORS IN CURTAINWALL FRAMES
 SECTION 084410-ALUMINUM SWING DOORS & FRP DOORS
 GLAZING BY SECTION 088000

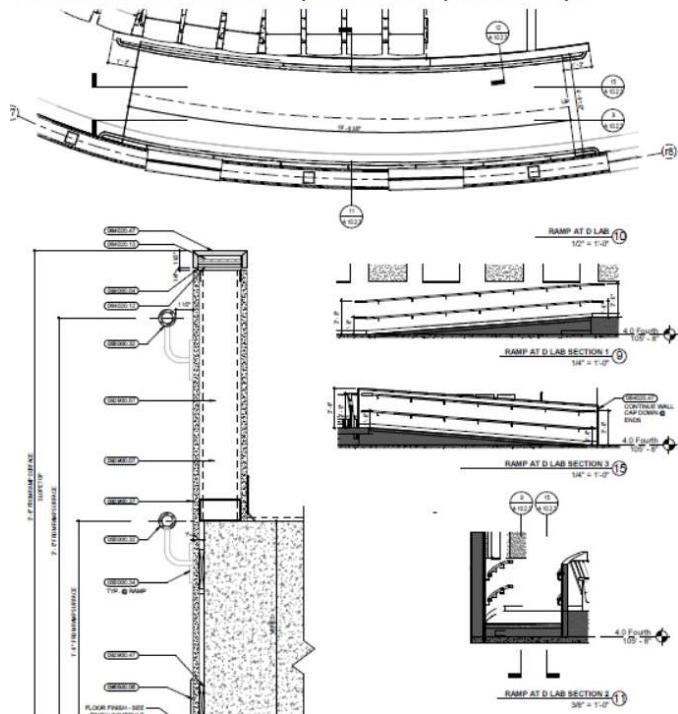




A.10.2.3 D Lab Ramp

Requirement per 521 CMR: Circular ramps often present issues with cross slope. Construction should be carefully monitored to ensure that the cross slope does not exceed 1:50 (2%).

This item has been responded to previously.



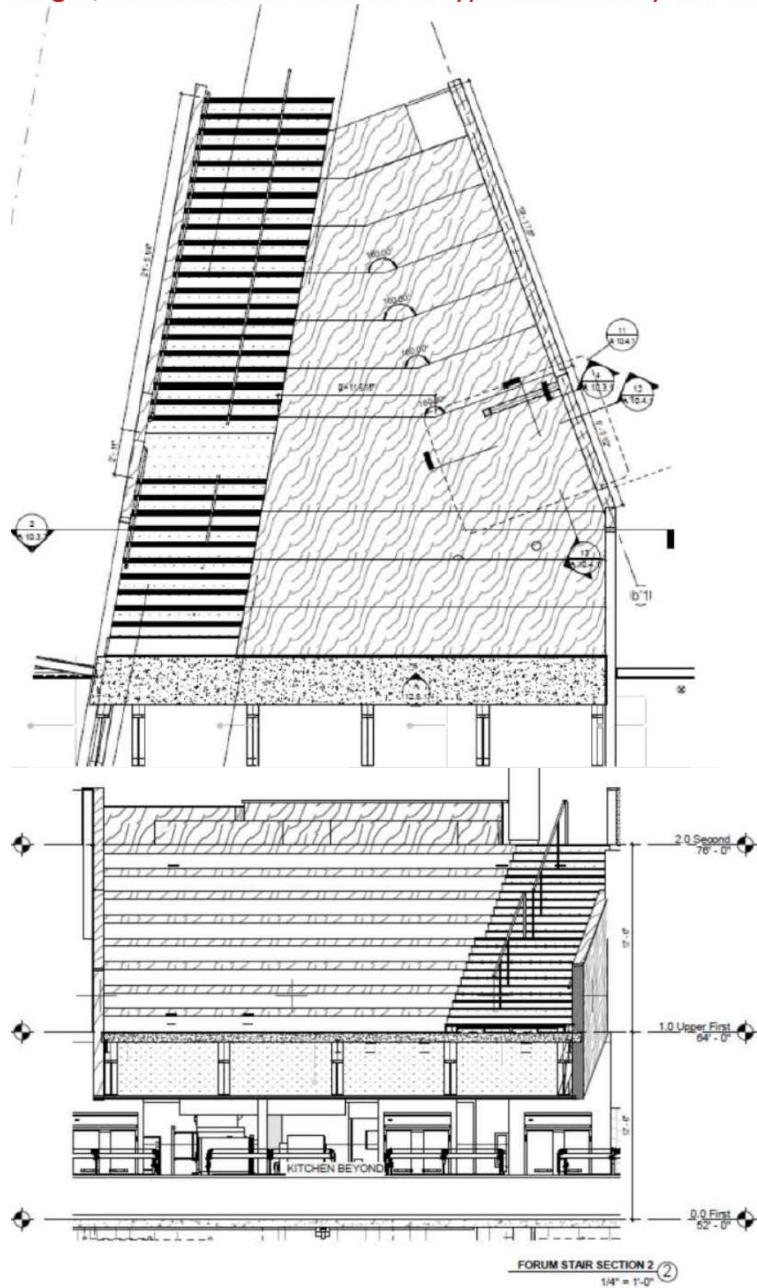
A.10.3.1 Forum Lift Stair Plan and Edging at Stair

Note: Lift to the mid stair landing will be removed.



Inclusive Design: As best practice and for safety, consider providing an edging detail at the edge of each of the social stairs. Also recommend providing furniture on stairs for people who have difficulty lowering to the ground to sit.

Edge detail was responded to previously. While loose furniture may be used at the School's discretion, there really is no need of it for the reason noted – the 'social stairs' are at seat height, so if one is able to sit in a typical chair they will be able sit on the Forum seating.



A.11.1 HC Shower Seat and Bar

Requirement per 521 CMR and 2010 ADA Standards:



The accessible shower detail shows the shower seat mounting height at 19" max. It may be best to put in the range of 17" to 19" max.

We have not specified an adjustable height shower seat, further we have searched the four national manufacturers we have listed in the specifications and none have an adjustable height shower seat. Please confirm if a mounting height of 17", 18", or 19" is preferred.

The seat should be padded.

This has been responded to previously.

Also note that both the ADA and MAAB have absolute dimensions of 36" x 36" for transfer showers. ADA requires that controls be located 15 inches max. from the center of the seat toward the shower opening.

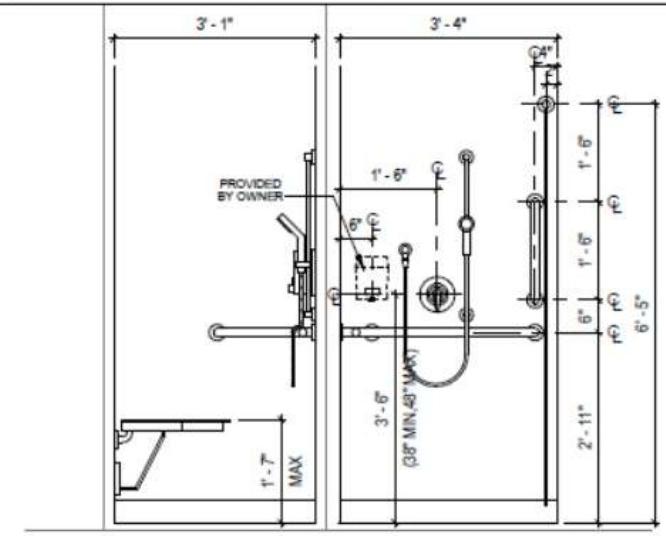
We had accommodated for the shower curtain encroaching into this dimensional requirement.

We will adjust to the 36"x36" absolute dimensions.

Shower spray bar is not clearly detailed and dimensioned: A shower spray unit attached to a flexible metal hose at least 60 inches and adjustable from 42 inches to 72 inches.

This has been responded to previously.

D) HC SHOWER & ACCESSORIES



A.2.2a and A.11.1

Requirement per 521 CMR and 2010 ADA Standards:

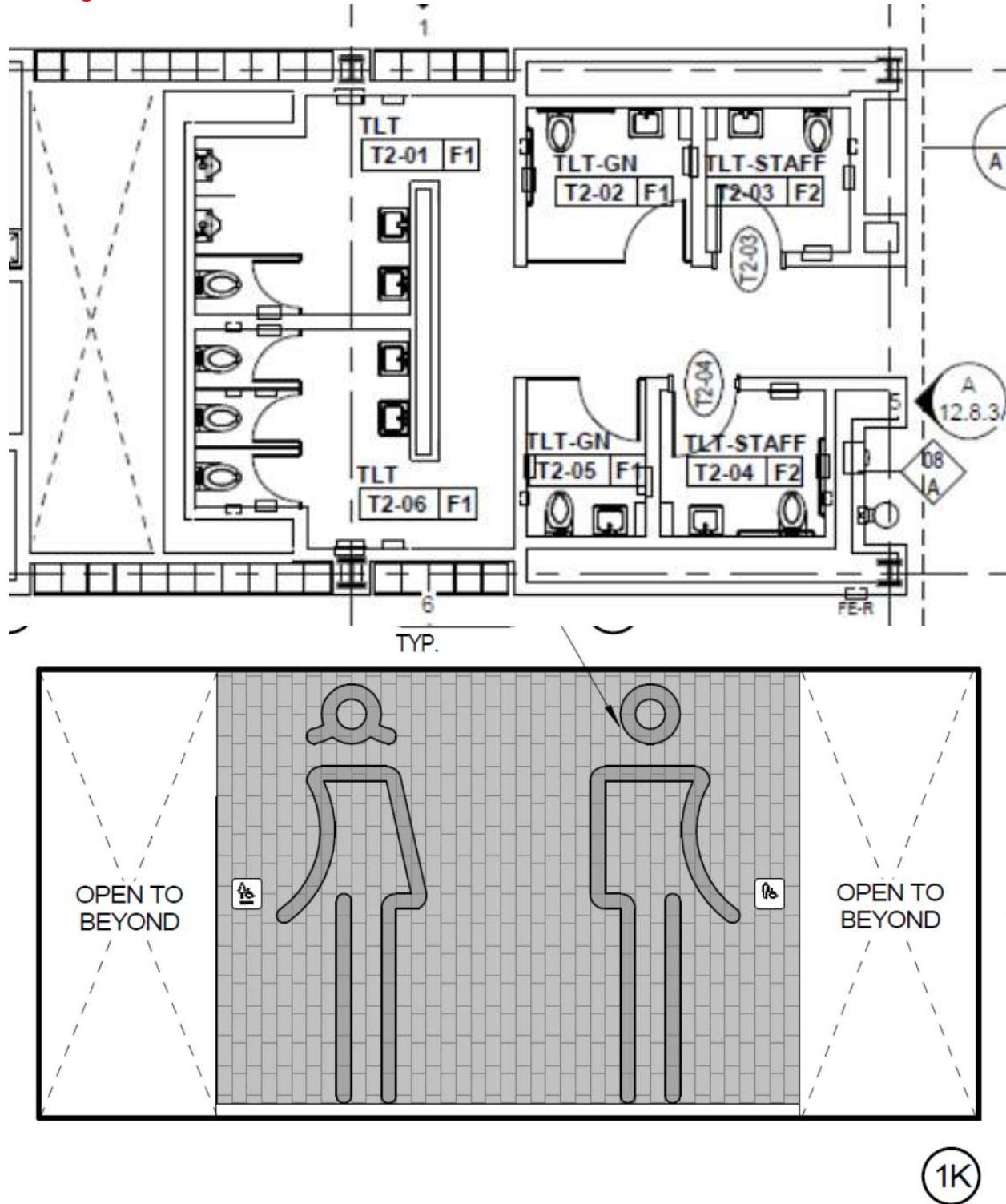
Multi-user toilet rooms throughout the school lack wheelchair accessible compartments and some may additionally lack turning space. Despite their proximity to single-user all-gender toilet rooms, it is still a requirement under both the ADA 2010 Standards and 521 CMR that multi-user toilet rooms in new construction have accessible fixtures including compartments, lavatories and urinals.

This item has been responded to previously.

Throughout the drawing elevations, many of these inaccessible toilet rooms are shown with signage showing the International Symbol of Accessibility, even though they are not accessible:



The signage schedule/scope owns the correct and required signs for the entire building, the contractor will be procuring the signs based on the signage scope, not the interior elevation drawings.

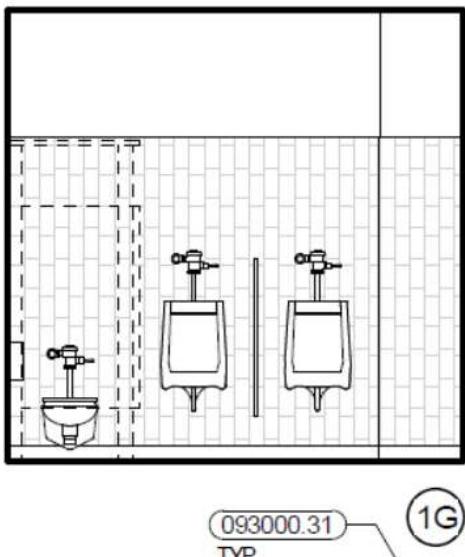


A.11.1 Men's Toilet Room Typ. with High Urinals

Requirement per 521 CMR and 2010 ADA Standards:

Ensure that one urinal is mounted with the rim no higher than 17 inches.

This item has been responded to previously.



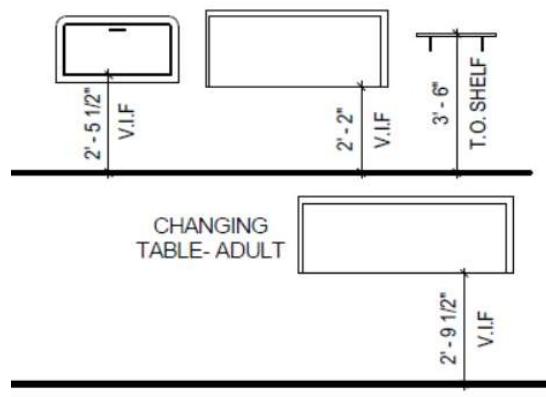
(093000.31)
TYP
1G

A.11.1 Toilet Room Baby Changing Tables

Requirement per 2010 ADA Standards: Typical details for changing tables do not discuss knee and toe clearance, work surface height or height to top control.

This item has been responded to previously.

S CHANGING TABLE- BABY CHANGING TABLE- CHILD @ PRESCHOOL SHELF - SST



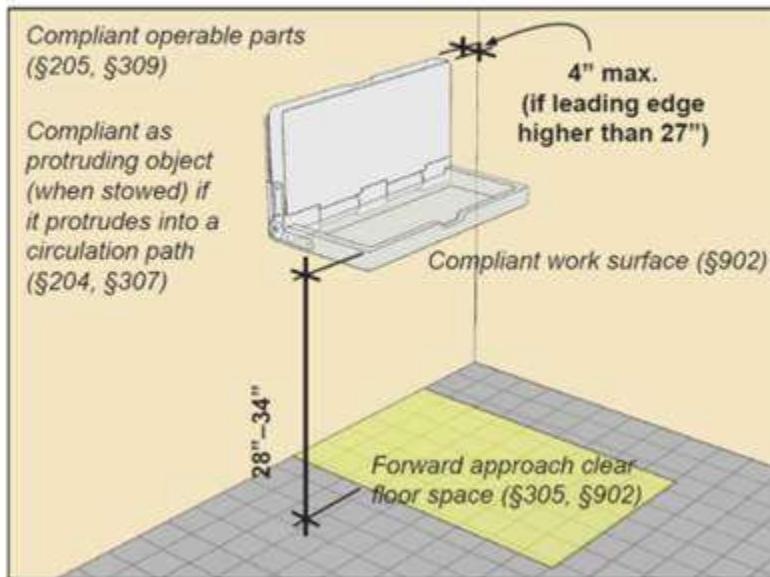
See the following image from the US Access board for guidance on changing table mounting heights and requirements:



Baby Changing Tables

[6226]

Where baby changing tables are provided, they must comply as a work surface and, if they project into circulation paths, as protruding objects.



A.11.1 Toilet Rooms in STEAM

Best Practice: Provide elevations of the accessible toilet room for clarity.

All toilet rooms are elevated, see Architectural drawings A11.1, A11.2, A11.3, and A11.4.

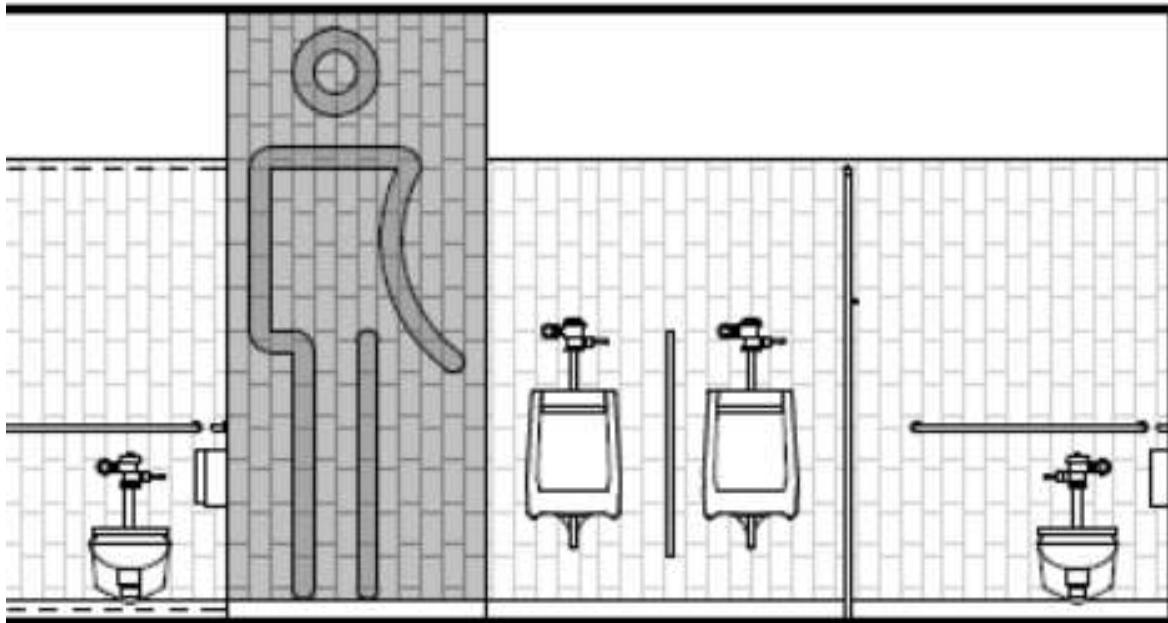
A.11.2 Gym Shared Toilet Rooms

Requirement per 521 CMR and 2010 ADA Standards:

Ensure that one urinal is mounted with the rim no higher than 17 inches.

This item has been responded to previously.



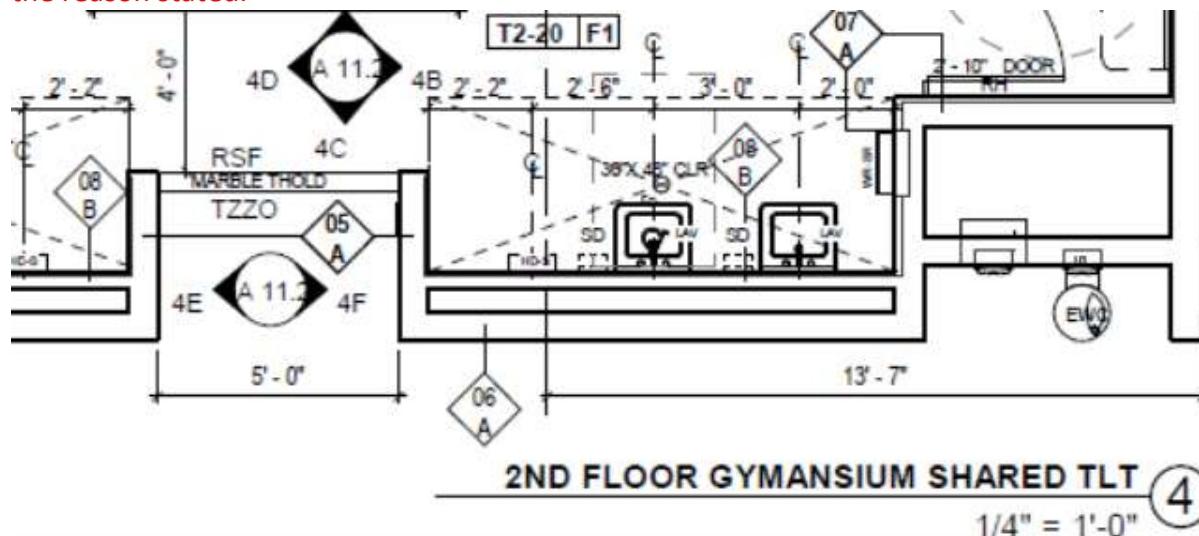


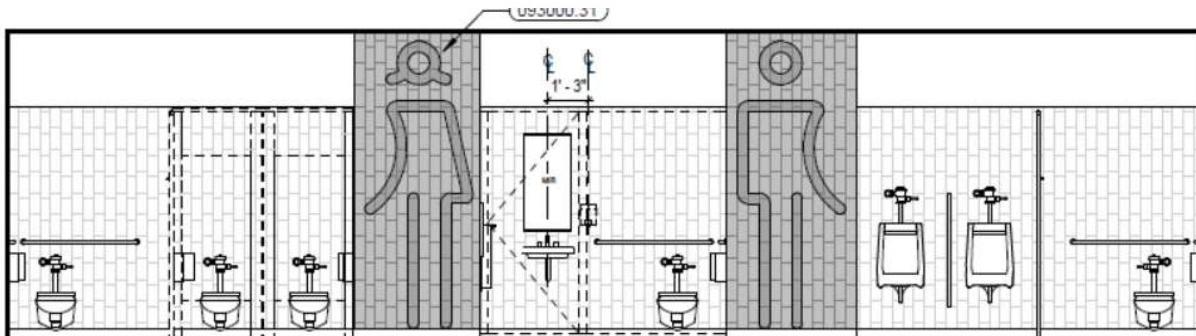
4A

A.11.2 Gym Shared Toilet Rooms Signage

Inclusive Design: Designation signs for which side is the men's versus which side is the women's is not in a location where a blind or low-vision user would be feeling the wall (at 4E and 4F), and they may wander into the men's or women's area by accident.

This is not accurate, elevations 4E and 4F are where the tactile room signs are located for just the reason stated.



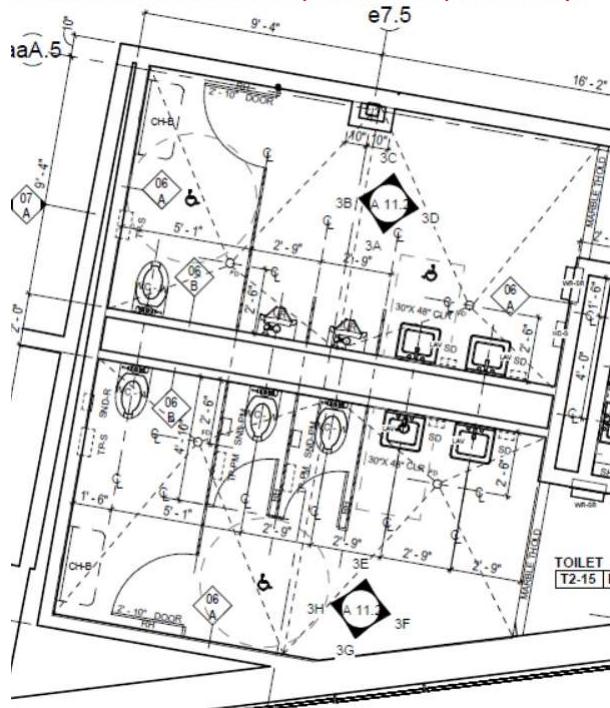


4A

A.11.2 Toilet Room in Performing Arts Changing Table

Best Practice: Provide changing tables outside of accessible compartments so that people who need the accessible toilets are able to use them.

This item has been responded to previously.



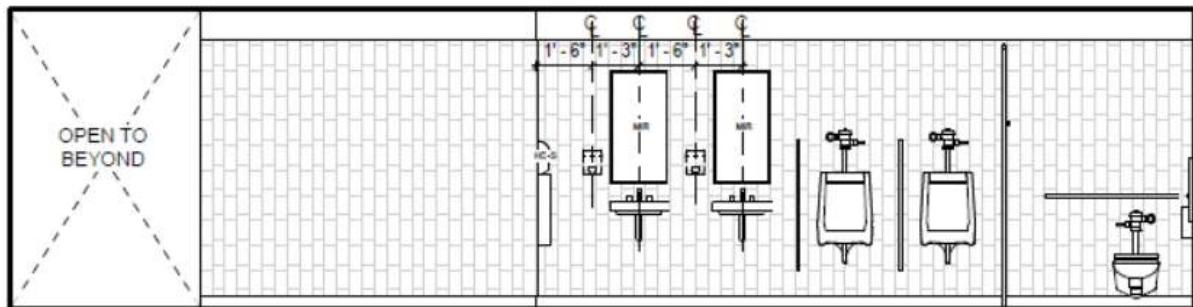
A.11.2 Toilet Room in Performing Arts Urinal

Requirement per 521 CMR and 2010 ADA Standards:

Ensure that one urinal is mounted with the rim no higher than 17 inches.

This item has been responded to previously.





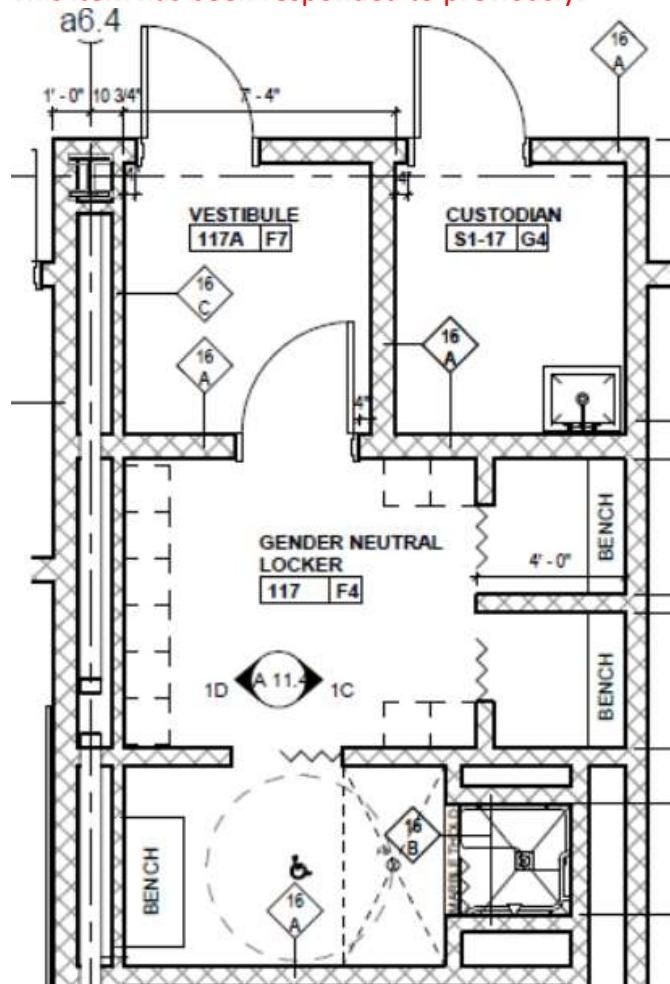
(3A)

A.11.4 Gender Neutral Locker Room Bench

Requirement per 521 CMR and 2010 ADA Standards:

Ensure a compliant bench with room to transfer is provided and detailed in this locker room.

This item has been responded to previously.



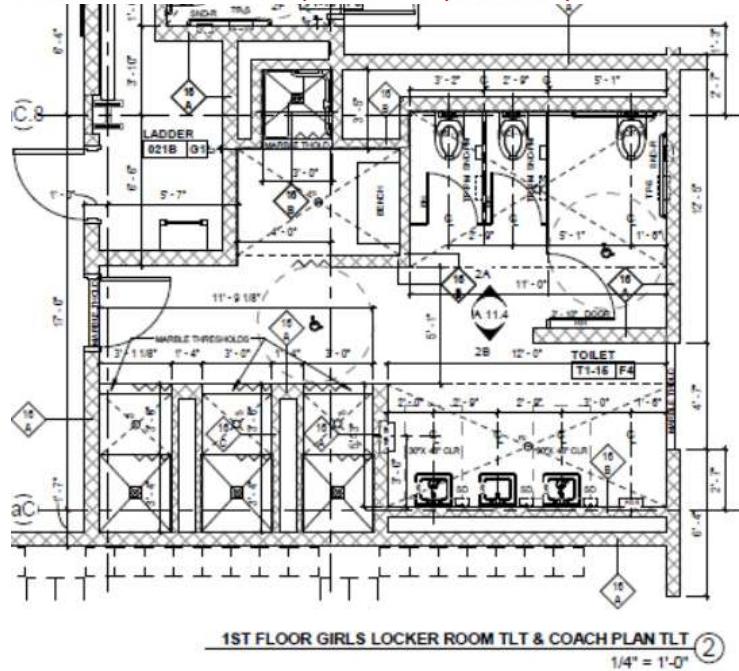
A.11.4 Girls and Boys Locker Room Bench

Requirement per 521 CMR and 2010 ADA Standards:



Institute for Human Centered Design

Ensure a compliant bench with room to transfer is provided and detailed in each locker room.
 This item has been responded to previously.

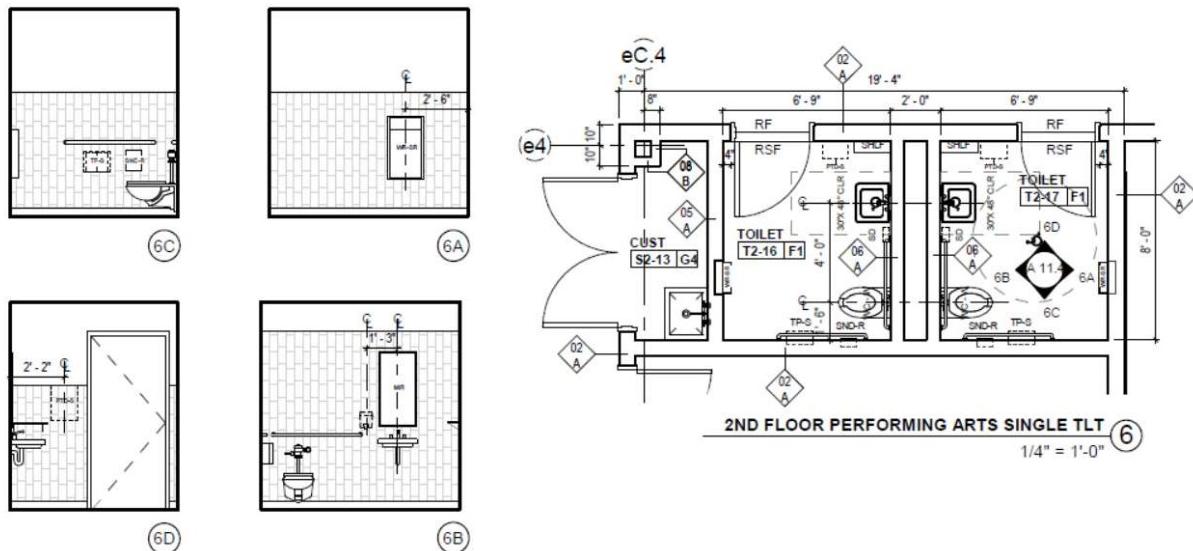


A.11.4 Paper Towel in Door Maneuvering Clearance (Same in Medical Suite)

Requirement per 521 CMR and 2010 ADA Standards:

If paper towel dispenser will be protruding from the wall, ensure it is not located in the door maneuvering clearance.

Paper towel dispenser unit is to be provided by Owner; we will revise the indicated installation location in the three noted toilet rooms to be out of the door maneuvering clearance.

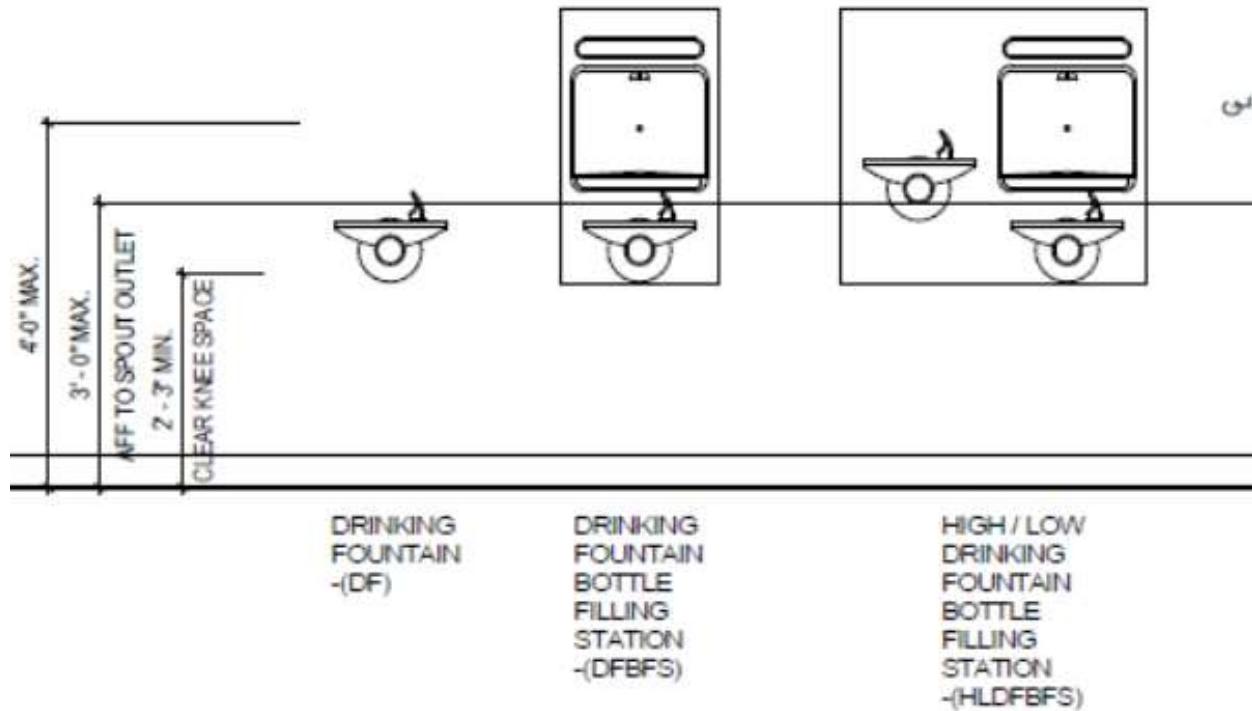


A.12.1.1 Drinking Fountains for Standing Users

Requirement per 521 CMR and 2010 ADA Standards:



The requirement for standing height drinking fountains is not detailed.
 This item has been responded to previously.

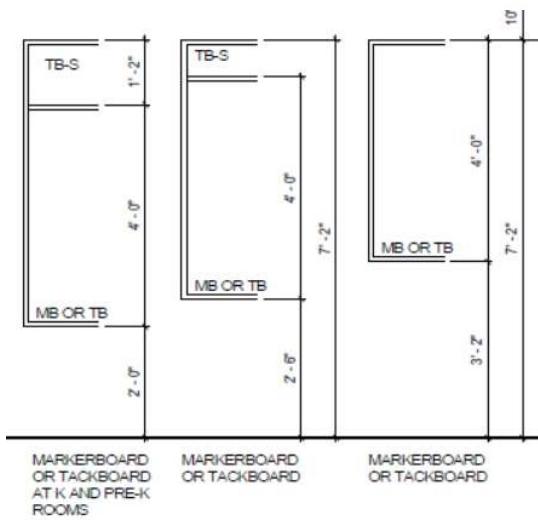


A.12.1.1 Markerboard Height and A.12.1.2

Inclusive Design:

- Provide wallboards on all walls except on exterior walls near windows with low sills.
This item has been responded to previously.
- Recommend having the low edge of wall boards at 27 inches or less above the floor to maximize the surface within the reach range of a sitting person.
This item has been responded to previously.
- Install some wallboards with their tops higher than 90 inches above the floor as surfaces for projections.
Same response as two items above.
- Install boards no closer than 6 feet laterally of the Primary Entrance Door.
This would greatly reduce the length of available teaching wall.
- Provide a separation of 3 feet or so between a wallboard and distracting material.
This is at the discretion of the educators.
- Provide at least 60 inches between any desk, table, cluster, etc. and a wallboard.
This is at the discretion of the educators.
- Provide at least a 48-inch wide space between a demonstration table, desk, lectern, etc. and the wallboard behind the teacher.
This is at the discretion of the educators.

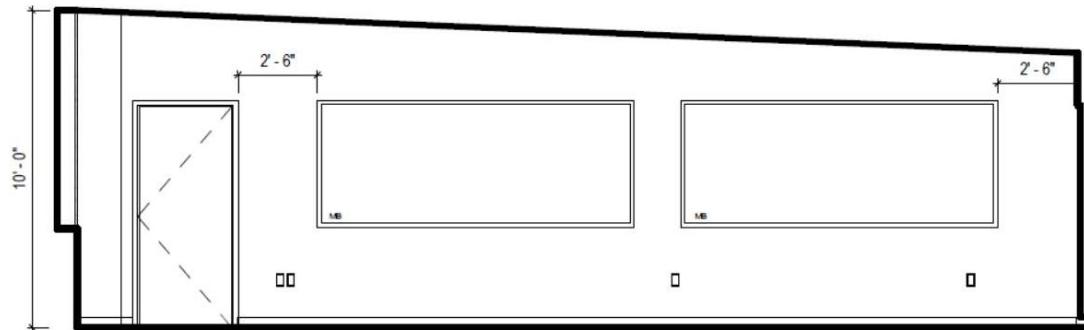




MARKERBOARD
OR TACKBOARD
AT K AND PRE-K
ROOMS

MARKERBOARD
OR TACKBOARD

MARKERBOARD
OR TACKBOARD



TYP CLASSROOM - B (2)
1/4" = 1'-0"

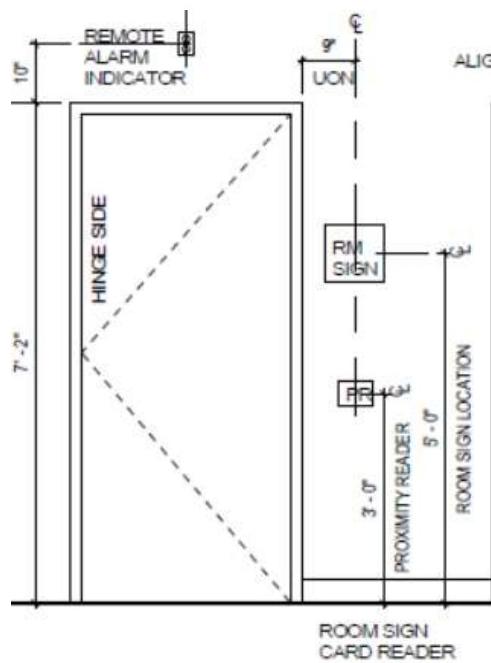
A.12.1.1 Room Sign Height

Requirement per 2010 ADA Standards:

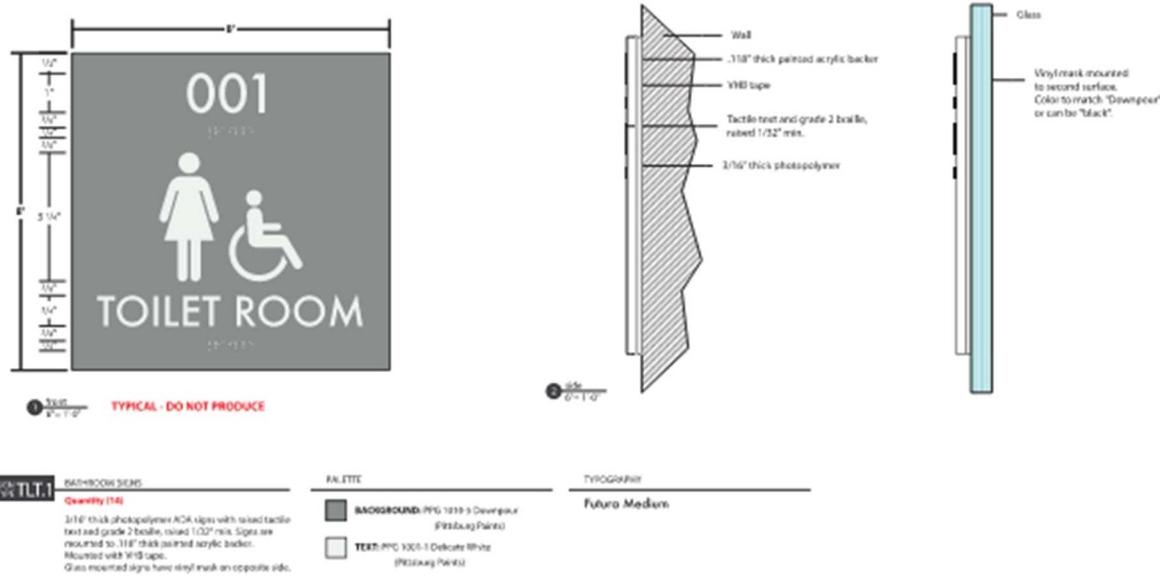
Room designation sign mounting height complies with 521 CMR but not all of the ADA requirements. Add additional details.

The noted graphic is not intended to detail all signage related requirements. There is a full set of Signage drawings and specifications in the documents, with which the signage will be procured. The signage product submission will include such information as the below example.





Example signage submission page:



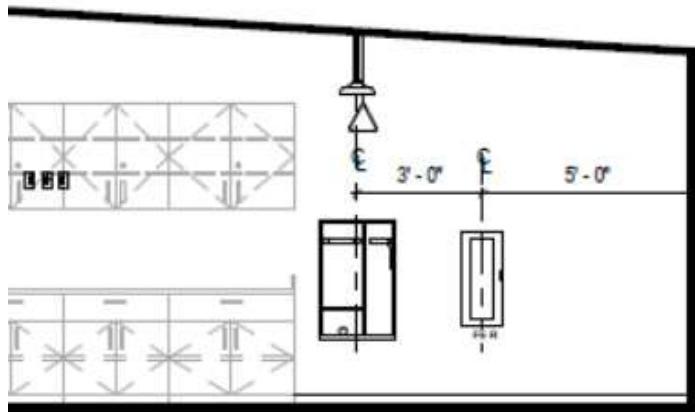
A.12.1.2 Classroom Emergency Shower

Requirement per 2010 ADA Standards:

Ensure that the emergency shower pull is located no higher than 48 inches. Emergency eyewash should be usable by a person in a wheelchair.

This item has been responded to previously.



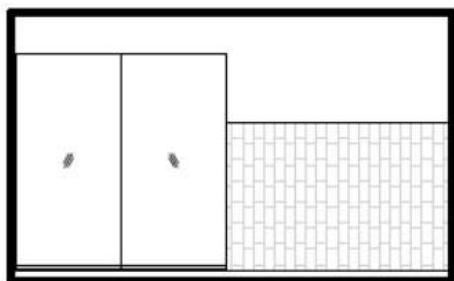


TYP SCIENCE CLASSROOM 1 - B 10
1/4" = 1'-0"

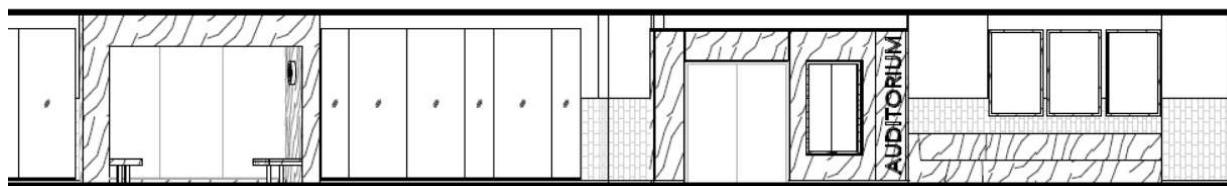
A.12.3.2 Visual Manifestations (and A.12.8.7 STEAM Wing Glazed Walls)

Best Practice/Inclusive Design: Provide graphic visual manifestations on glass panels to help people detect glass in the circulation route.

There is a graphic film on the interior glass panels that are full height, see hatch zone indicating area of film on the detail below, which is on drawing sheet A9.4.

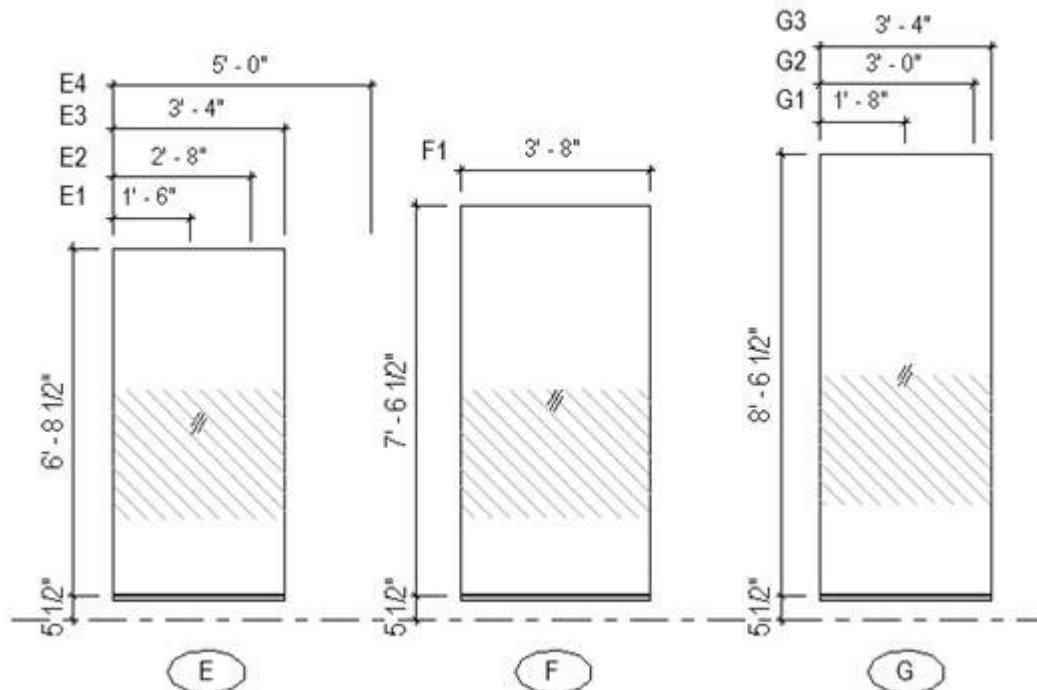


VESTIBULE - A 25
1/4" = 1'-0"



C3-12 SOUTH ELEVATION 10
3/16" = 1'-0"



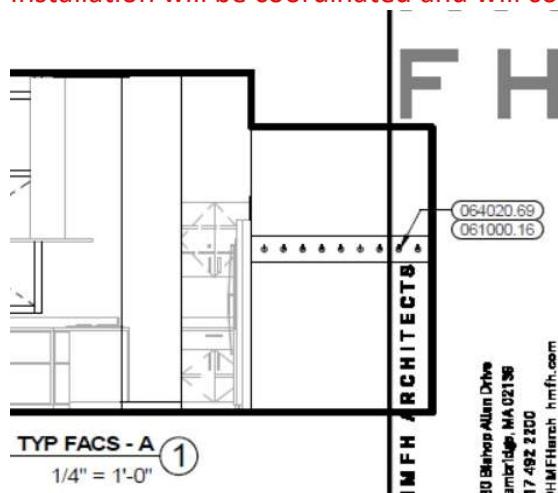


A.12.4.1 Hook Height

Requirement per 2010 ADA Standards:

Ensure that 5 percent of hooks per room are mounted no higher than 48" above the finished floor.

Installation will be coordinated and will comply.



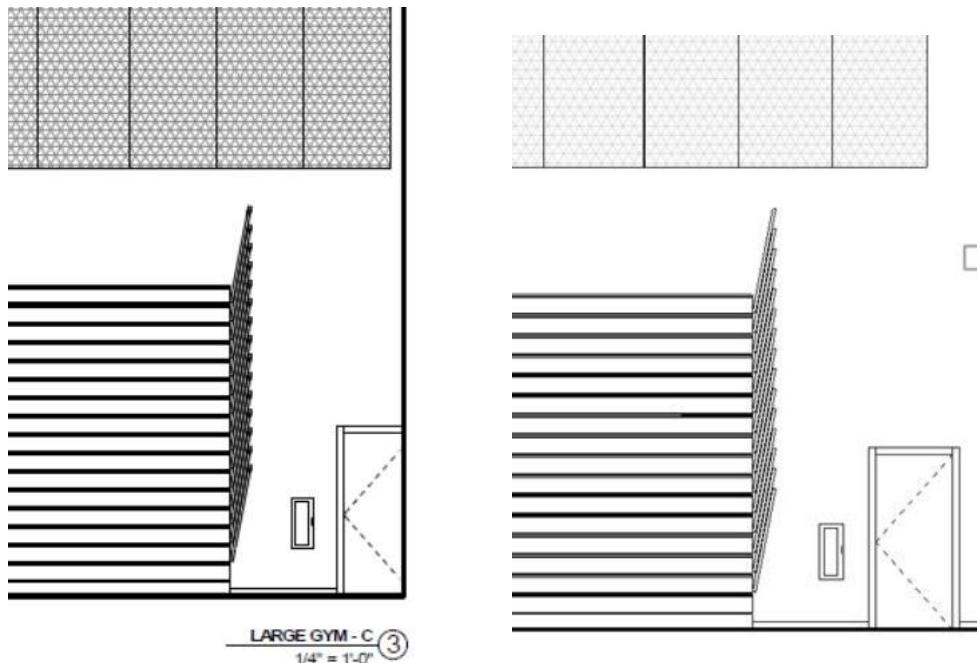
A.12.5.2 Gym Exit Door to Exterior

Requirement per 521 CMR and 2010 ADA Standards:



Exit door lacks maneuvering clearance. Relocate door so that it has min. 12" maneuvering clearance on the push side or provide an automatic door opener.

The elevation is cut further back from the door, see elevation below on right, which is cut closer to the door and shows that clearance is provided.



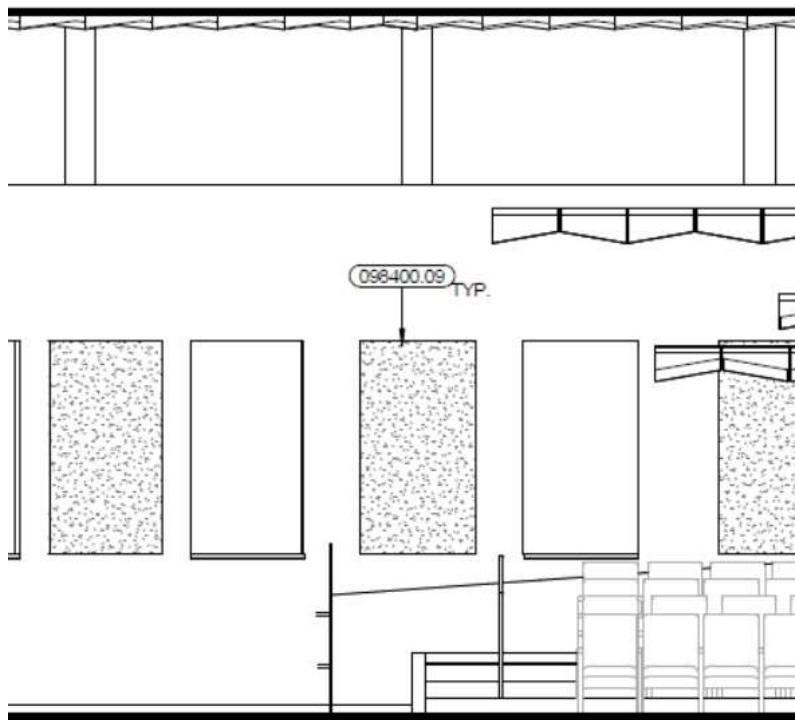
A.12.7.1 D Lab Ramp Extensions

Requirement per 521 CMR and 2010 ADA Standards:

Ramp extensions must return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run. The way that these handrails project out, they may catch on things.

This has been responded to previously.



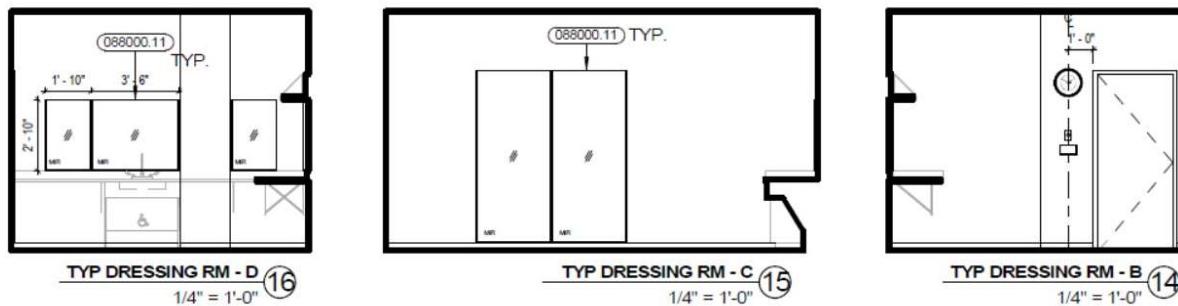


A.12.7.2 Dressing Room

Requirement per 521 CMR and 2010 ADA Standards:

At least 5 percent of dressing rooms are required to have a bench compliant with 521 CMR 33.0 and 2010 ADA 903. Doors cannot swing into the changing areas.

This has been responded to previously.



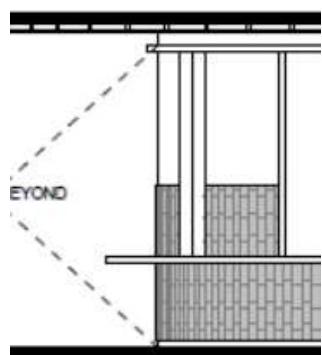
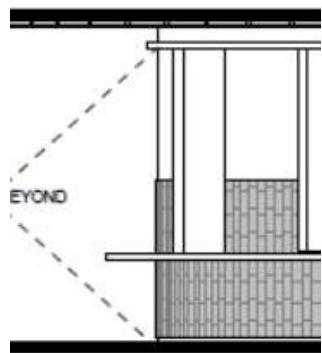
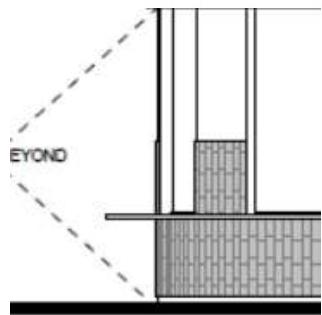
A.12.8.4 North and South Corridor Work Surfaces

Requirement per 521 CMR and 2010 ADA Standards:

Built-in work surfaces on several floors may act as protruding objects in the circulation path.

These counters are not within the corridor circulation path and will have furniture (chairs) around it, so will not be dissimilar to a loose furniture layout/situation.





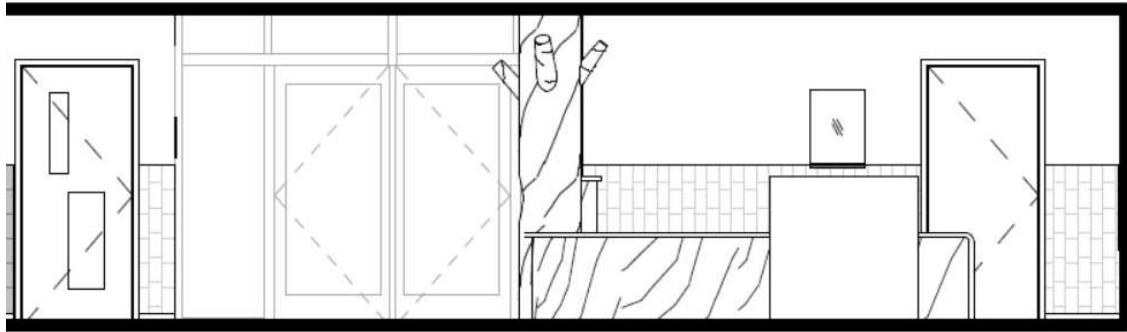
A.12.8.8 Preschool Protruding Object

Requirement per 521 CMR and 2010 ADA Standards:

Ensure that branches of tree sculpture do not act as a protruding object in the circulation path.

Final coordination upon submittal and prior to installation will ensure the tree branches are not protruding objects in the circulation path, they will occur no lower than 6'-8" AFF.





PRE-K CORRIDOR - EAST - A (3)
3/16" = 1'-0"

A.13.0 Toilet Building in Sports Field

Requirements per 521 CMR and 2010 ADA Standards:

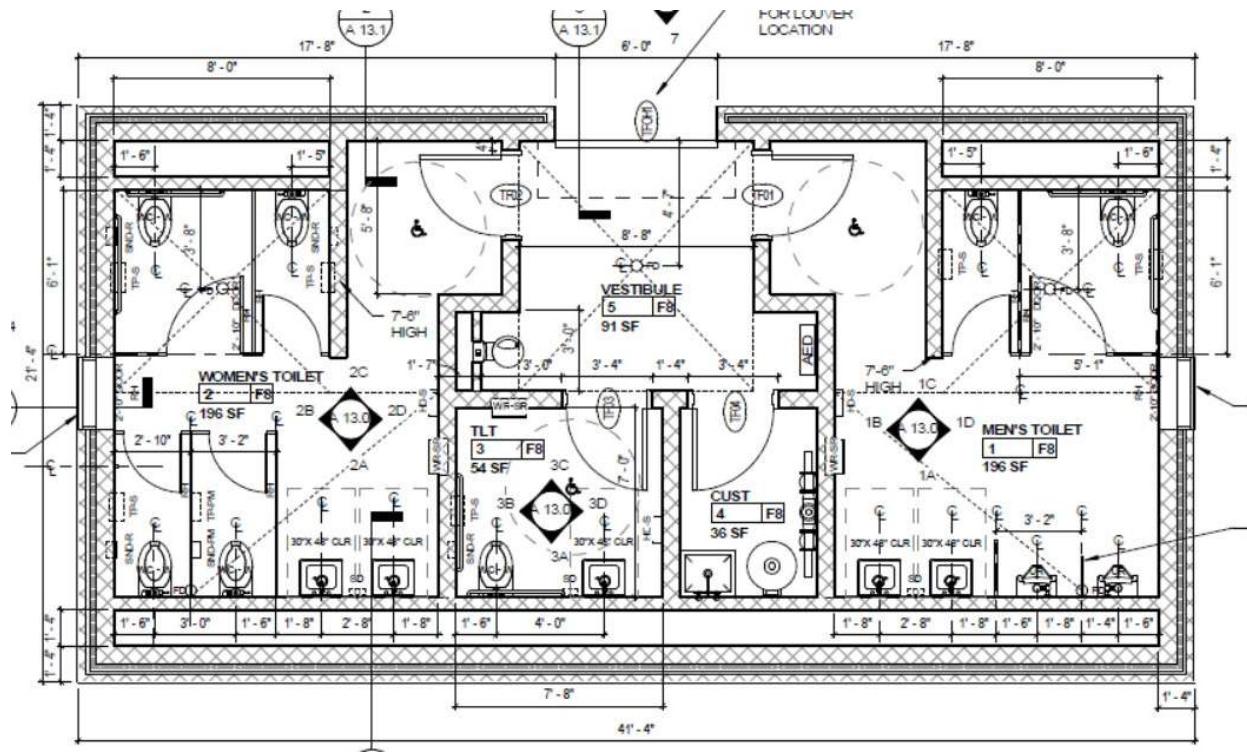
Doors of the accessible toilet compartments are swinging into the clearance required at the toilet.

Adjustments will be made to allow the doors to swing out as required.

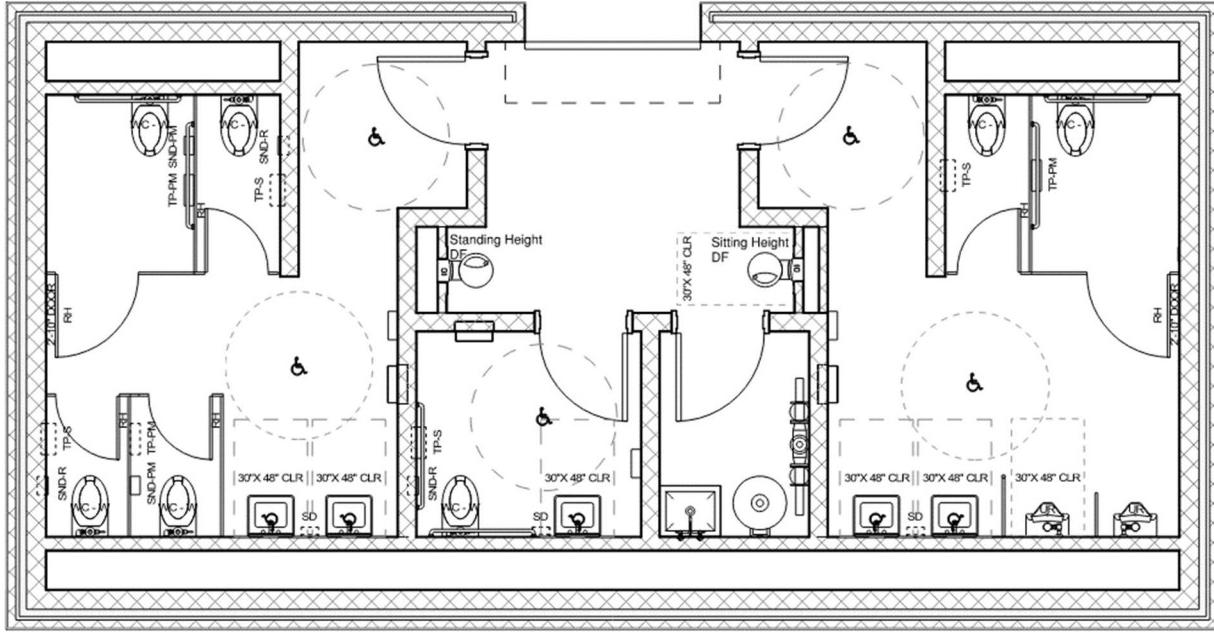
Only one drinking fountain is provided. Wherever drinking fountains are provided there should be a standing and seated drinking fountain.

A standing height drinking fountain will be provided.

See below for updates to the layout.



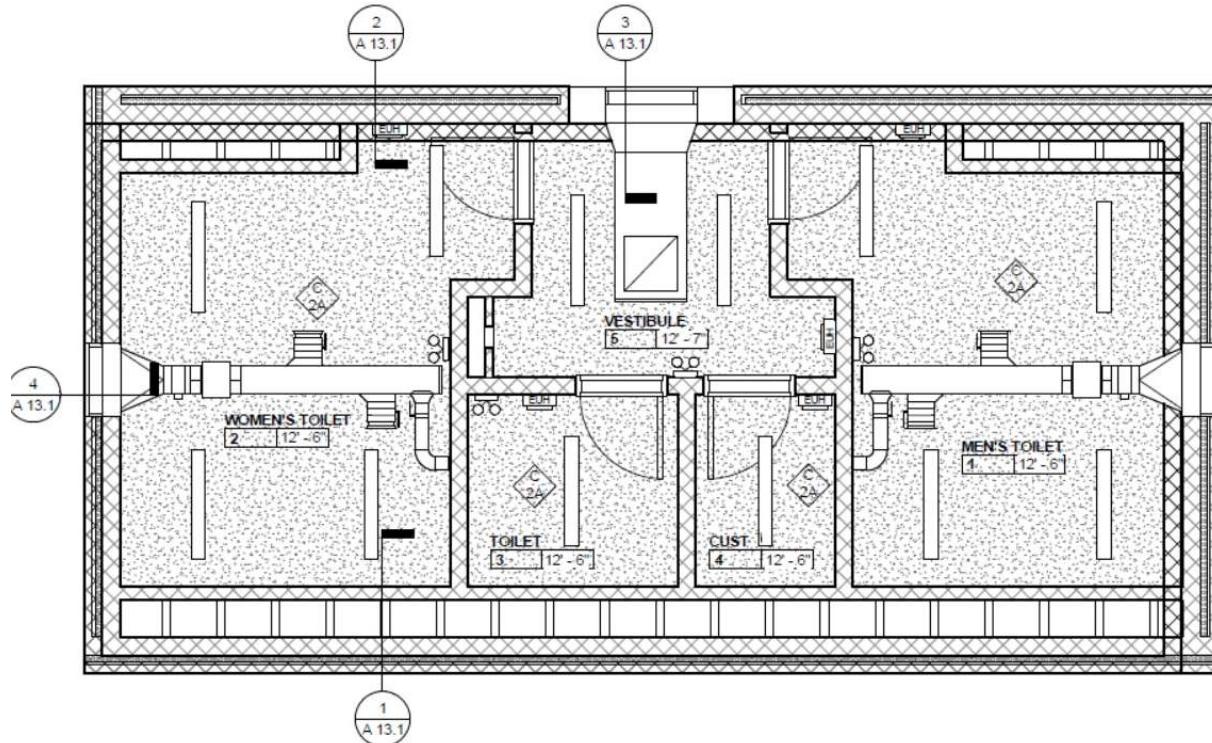
Updated layout:



A.13.0 Toilet Building in Sports Field Reflected Ceiling Plan

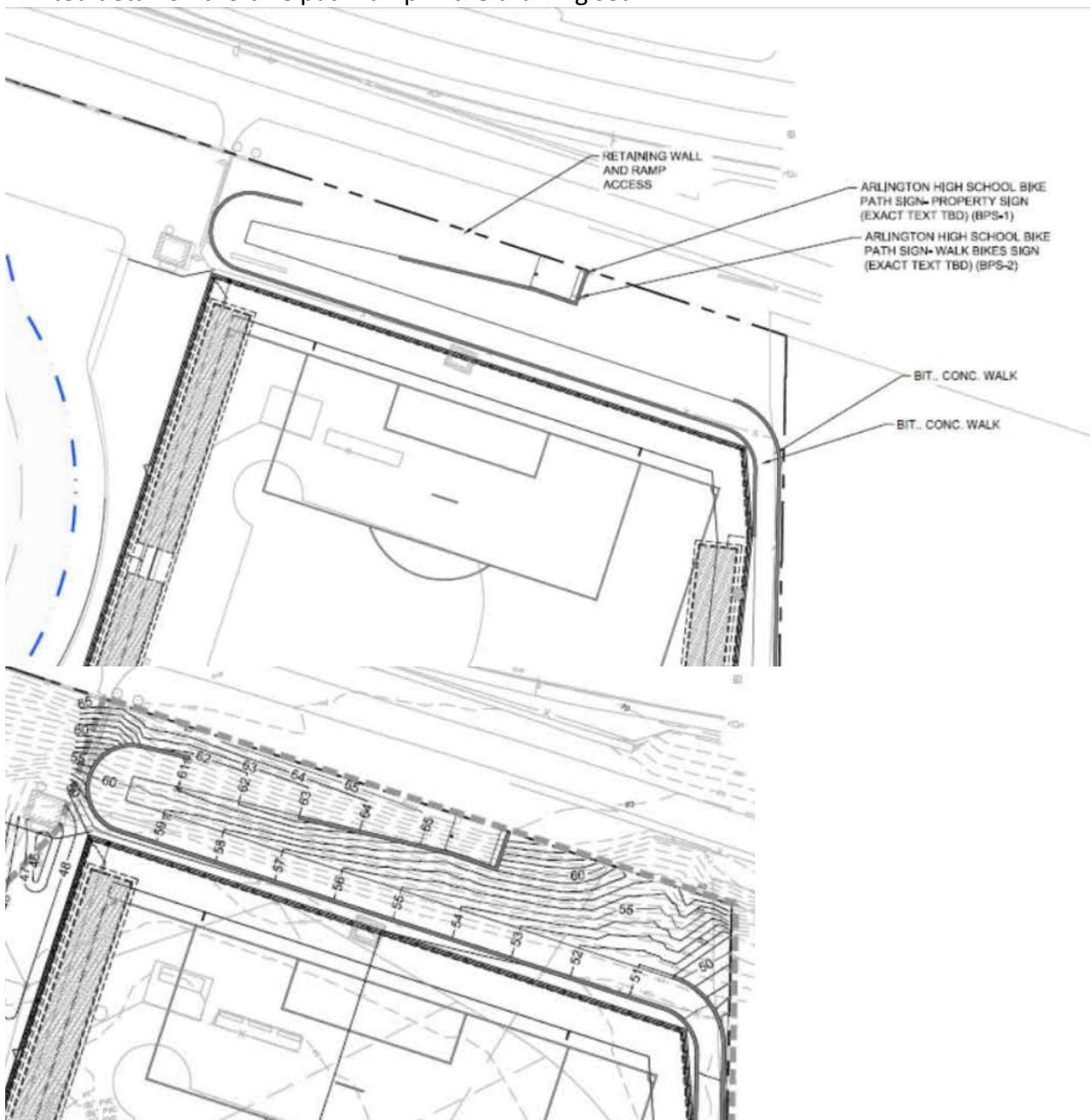
Best Practice / Inclusive Design: Recommend lighting over each compartment and each lavatory.

While we do have adequate lighting, we will review layout for potential improvements.



C.2.0.3, C.3.0.4 Bike Path Ramp

Limited detail on the bike path ramp in the drawing set.



Required per 2010 ADA Standards:

Ensure that there is adequate space for the 180 degree turn:

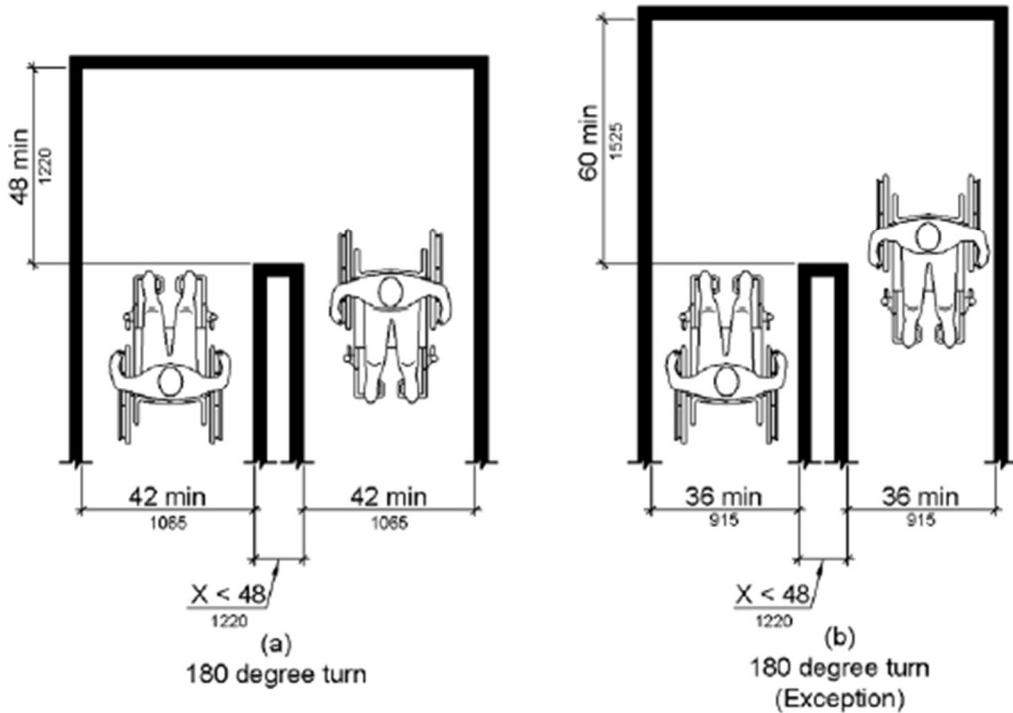
See diagram below, the clear width at the turn is greater than 60".

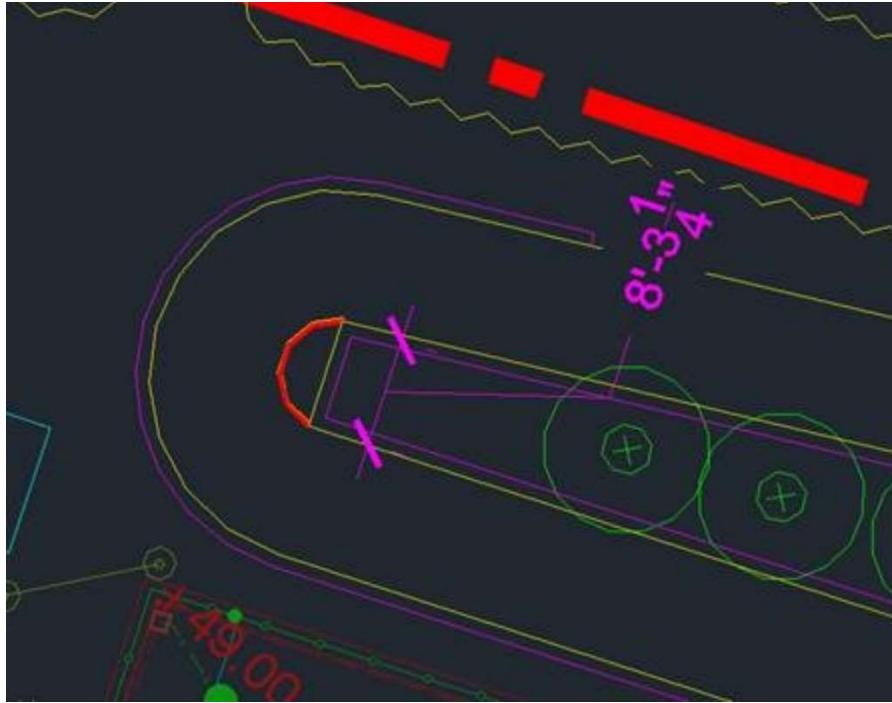
2010 ADA Standards: 403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the



turn and 42 inches (1065 mm) minimum leaving the turn. **EXCEPTION:** Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

Note: during the meeting the architect described the “ramp” as not technically a ramp as the slope will be a max. of 1:20 (5%). She will be adding railings even though it is not technically a ramp.





C.2.0.4 Parking Lot on West

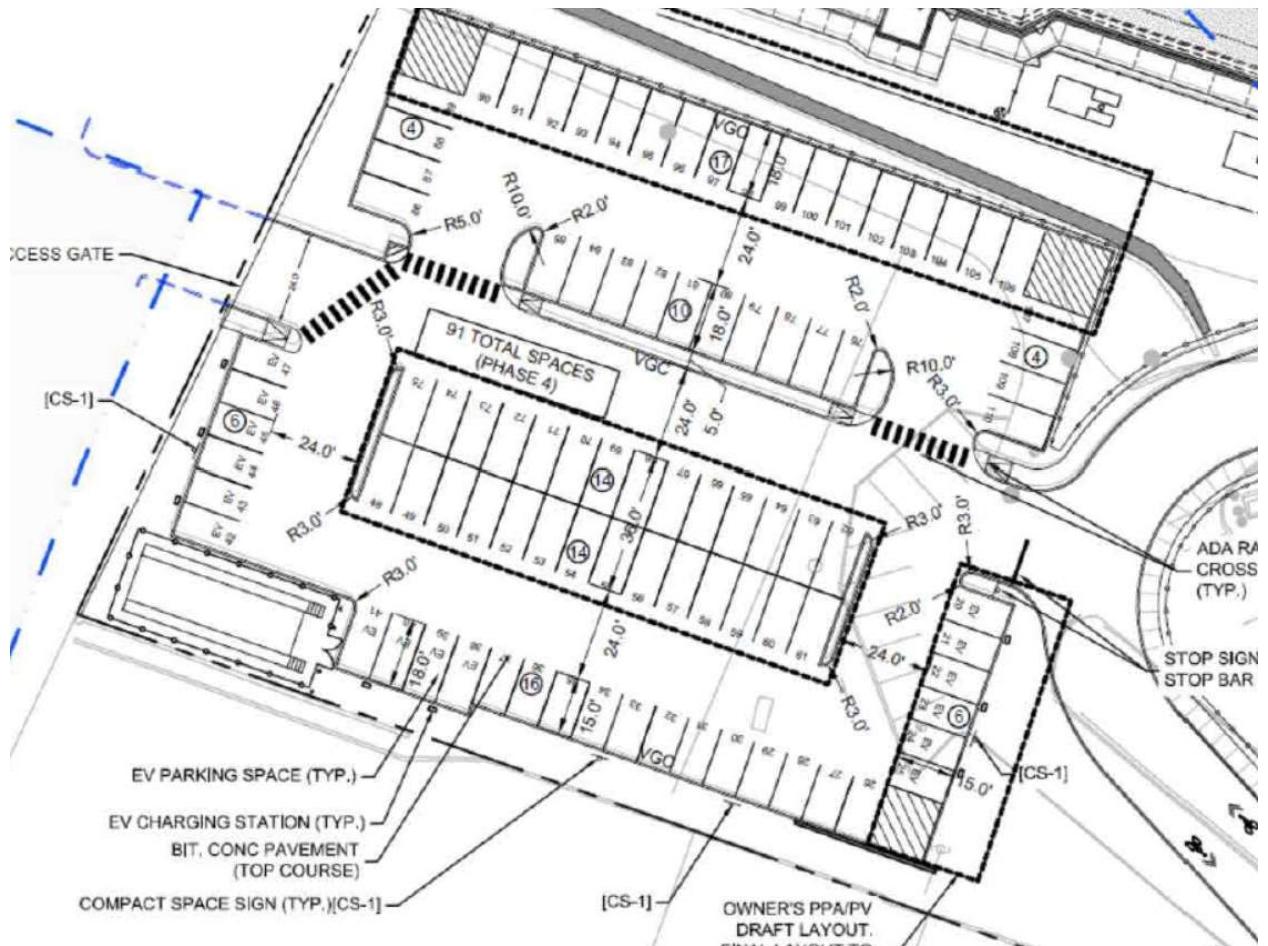
No accessible parking spaces are located in this lot. This may only be a parking lot for staff but the public may use this lot some times. The US Access Board requires that accessible parking spaces for each parking facility on a site, such as lots and garages: <https://www.access-board.gov/ada/guides/chapter-5-parking/#accessible-parking-on-a-site>

This item has been responded to previously.

Another inclusive design recommendation with this lot is to provide at least one accessible electric vehicle charging station:

The west lot is not an accessible lot. But future EV station installation may occur at the North entry's accessible parking location.





See recommendations from the US Access Board:

Electric Vehicle Charging Stations



The Standards do not include specific provisions for electric vehicle (EV) charging stations. However, it is advisable to address access to EV charging stations so that they are usable by people with disabilities. If provided, accessible spaces at EV charging stations cannot count toward the minimum number of accessible car and van parking spaces required in a parking facility.

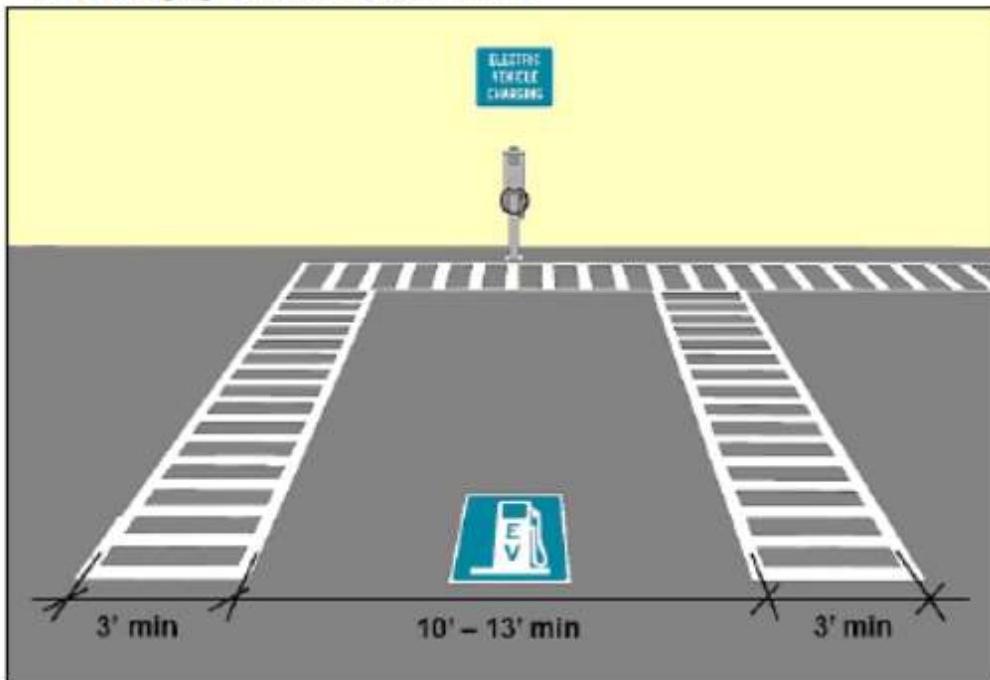


Recommendations: Provide access to a reasonable number of spaces serving EV charging stations or use the scoping table in §208.2 to determine an appropriate number. (The number of accessible spaces serving EV charging stations must be determined separately from the required number of car and van parking spaces.)

Accessible EV Charging Stations

Accessible Route

Provide an accessible route on both sides of the vehicle space that connects to the charging station for easier access.



Vehicle Space

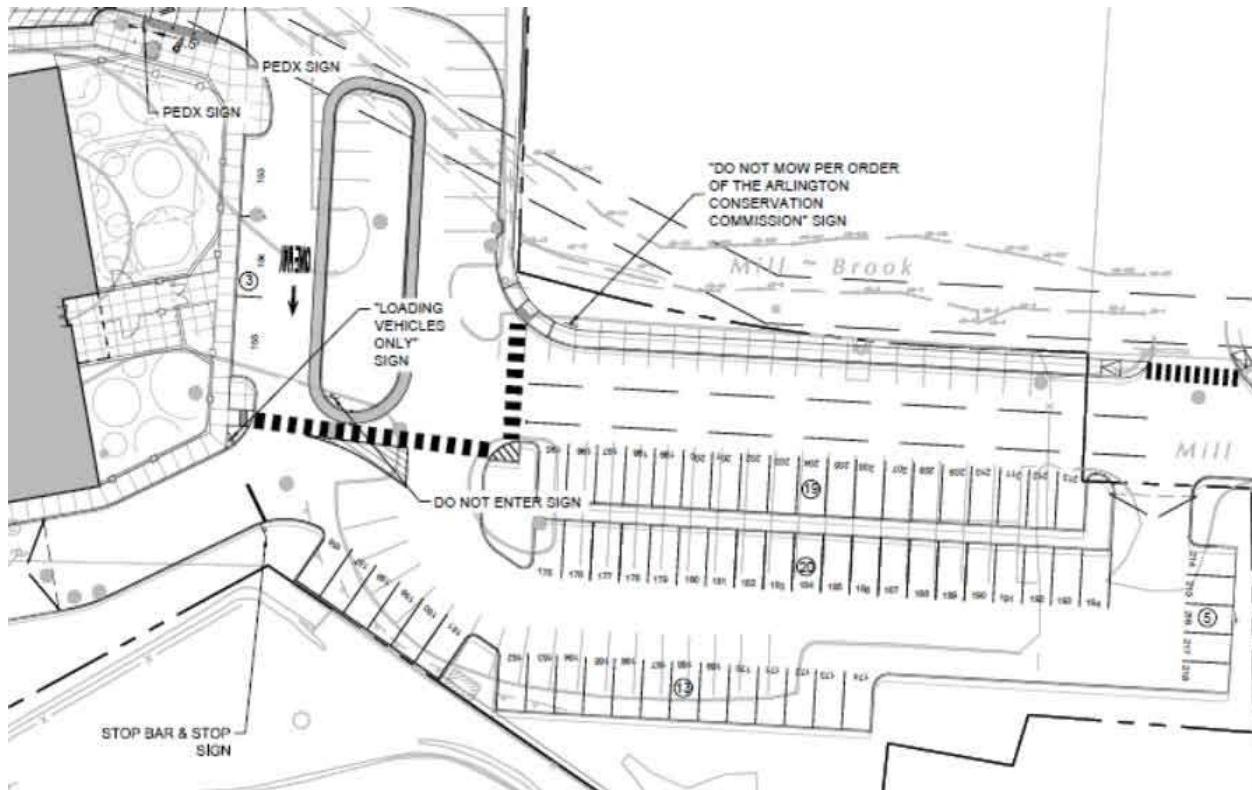
A vehicle space at least 10' – 13' wide is advisable. A 10' width offers an extra 2' that effectively provides a 5' aisle on one side when paired with the accessible route; a 13' wide space will allow an 8' aisle. This flexibility is helpful since the parking direction is determined by the location of the charging station and the vehicle connection. Use the International Symbol of Accessibility only where spaces are reserved exclusively for people with disabilities.



East Lot by Preschool

No accessible parking spaces are provided close to the main entrance to the Pre-School. Although accessible parking is provided in the north lot, the US Access Board recommends providing accessible parking in each lot. See recommendations and requirements listed on pages 2-3.

This item has been responded to previously.



Street Parking on Mass. Ave.

Based on the Massachusetts Office on Disability, where street parking is provided, accessible street parking must be provided.

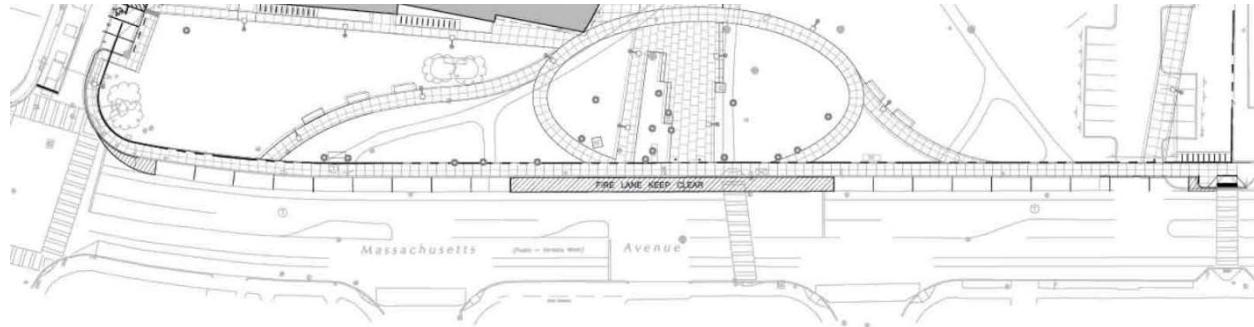
This item has been responded to previously.

<https://blog.mass.gov/mod/access/accessible-on-street-parking/>

"Since we cannot look to the MAAB or the 1991/2010 ADA Standards for the technical requirements, we must look to the overarching obligations of a Title II entity (State or Local Government) covered under the Americans with Disabilities Act (ADA). Title II of the ADA requires that covered entities must ensure that their programs and services are accessible to, and usable by, persons with disabilities. On-street parking is a service offered to everyone; therefore it must be ensured that there is accessible on-street parking provided as well. Currently, a minimum of 5% of the on-street parking should be accessible.



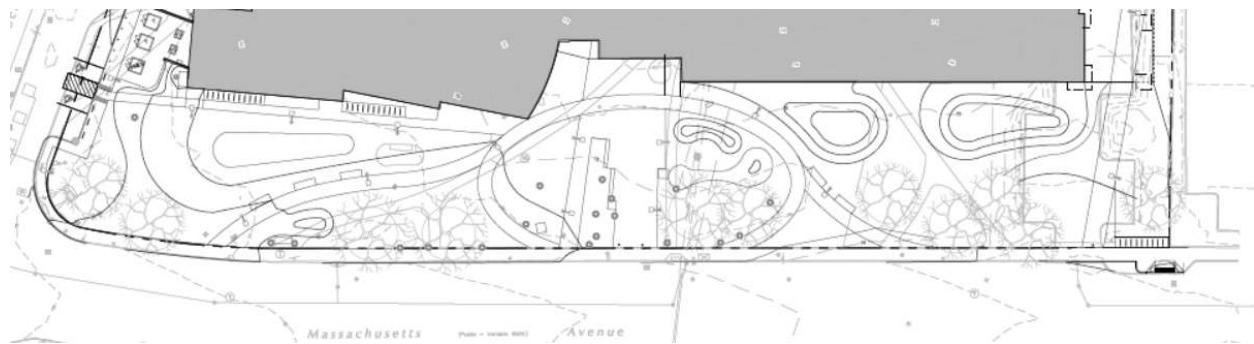
First, signage must be provided at the head of the parking space to reserve it for people using HP plates or Placards; much like you would find in a parking lot. Second, if there is a sidewalk adjacent to the location of the accessible on-street parking space, it should be located close to a curb cut so someone exiting on the driver's side of the vehicle can travel the shortest distance to get onto the sidewalk. Third, if there is a sidewalk adjacent to the space, there should be enough space for a lift to lower onto the sidewalk without hitting an obstruction, like a tree, waste barrel, sign or other piece of street furniture."



Exterior Benches

Provide a site plan detailing the location of exterior benches. Ensure that one bench in each area has an accessible route to it. As best practice provide clear floor space alongside the bench. Provide a variety of different benches such as benches with and without arms to be used by the greatest variety of people.

All exterior benches are connected to an accessible route. At each bench area there are companion wheelchair locations. And overall, the majority of benches accommodate an adjacent companion wheelchair location. Two types of benches are proposed, those with armrests and backrests and those with just armrests.



Consigli Owner Monthly Dashboard

February 2021

Arlington High School

860 Mass Ave. Arlington, MA



Executive Overview

- Structural Steel bldg. D completed & concrete slabs on deck commenced. Bldg. E structural steel fabrication is experienced delay due to design revisions. Current completion of steel is scheduled (weather permitting) for early March in lieu of mid February. A schedule analysis is being performed for recovery in the overall Phase 1 duration or an extension for Phase 1 and subsequent phase completions.
- Project Buyout continued through February. \$8.8 M+/- remains to be awarded. Currently a \$150K saving. Seeing steel related scopes pricing drastically spiking. Remaining buyout anticipated to be complete in March 2021.
- MEP coordination continues, the underground (D&E) and bldg. upper floors of bldg. D were submitted as scheduled in January, with rough in installation beginning in February.
- "Add back" Price Requests (PR) #1- #5 for floor and wall finishes were priced and submitted for review and approval, Total \$1.4M SBC approved. HMFH issued CCD's for PR001, 003, 004, and 005 for work to proceed.
- COVID-19 protocols and procedures are and remain in place.

Billing Status



Progress Pictures



Safety

Current Project Safety Score	98.70%
Total Man Hours to Date	58,496
Incidents to Date/ Month	1

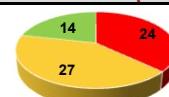
Workforce Reporting

Minority Participation	17.50%
Women Participation	1.00%
Local Participation	N/A

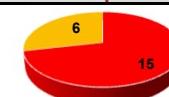
Schedule

Project Milestones	Target	Actual
Start Early Bid Package #2	4/23/2020	4/23/2020
Completion of Early Bid Package #3	8/28/2020	8/28/2020
Completion of Structural Steel Bldg. E	2/8/2021	
Completion of Phase 1	2/11/2022	
Completion of Phase 2	9/19/2023	
Completion of Phase 3	9/18/2024	
Completion of Phase 4	4/24/2025	

Submittal Response Status



RFI Response Status



Roadblocks

Item	Resolution	BIC
#65 - RFI-196 - Building E Main Electrical Room Layout	2/12/2021	HMFH
#66 - 042000-006 - Mortar Color Sample Approval	2/17/2021	HMFH
#67 - 084410-003 - Curtainwall Color Sample Approval	2/17/2021	HMFH

Contract Status

Original Contract Amount	\$234,287,347
Approved Change Orders	\$0
Current Contract Amount	\$234,287,347

Change Orders

Verbal Approved	\$171,918
Submitted	\$0
Pending	\$167,125

Hold Status

Original Hold Budget	\$3,474,943
Expended to Date	-\$42,522
Remaining Holds	\$3,517,465

Contingency Status

Original Cont. Value	\$6,967,419
Expended to Date	\$1,204,494
Remaining Contingency	\$5,762,925

Procurement

Percent Complete	94.04%
Buyout Bust / Savings	\$153,421
Buyout Bust / Savings %	0.01%

Projected Contract Amount With Potential Changes	\$234,626,390

Hold Status

Original Hold Budget	\$3,474,943
Expended to Date	-\$42,522
Remaining Holds	\$3,517,465

-1%
99%

Expended to Date
Remaining Holds

Contingency Status

Original Cont. Value	\$6,967,419
Expended to Date	\$1,204,494
Remaining Contingency	\$5,762,925

17%
83%

Expended to Date
Remaining Contingency

Allowance Status

Original Allow. Budget	\$4,321,945
Expended to Date	-\$2,049,663
Remaining Allowance	\$6,371,608

24%
76%

Expended to Date
Remaining Allowance

Arlington High School Building Committee Meeting

Tuesday, February 2, 2021

Conducted via Remote Participation

6:00 pm

Present: Jeff Thielman, School Committee Representative, Chair
Kathleen Bodie, Superintendent, Co-vice chair
Adam Chapdelaine, Town Manager, Co-vice chair
Kirsi Allison-Ampe, School Committee Representative
Francis Callahan, Community Member Representative
John Cole, Former Chair, Permanent Town Building Committee
Tobey Jackson, Community Member Representative
Matthew Janger, AHS Principal
Ryan Katofsky, Community Member Representative
Brett Lambert, PTBC Representative
Kate Loosian, Community Member Representative
Michael Mason APS Chief Financial Officer
William McCarthy, AHS Assistant Principal
Judson Pierce, Community Member
Sandy Pooler, Deputy Town Manager
Paul Raia, Disabilities Commission Representative (absent)
Brian Rehrig, Capital Planning Committee Member
Greg Walters, Facilities Director-Town of Arlington
Amy Speare, Community Member Representative
Shannon Knuth, Teacher Representative
Kent Werst, Teacher Representative

Also present: Jim Burrows, Victoria Clifford, Sy Nguyen, Skanska Inc.
Lori Cowles, Arthur Duffy, Melissa Greene, HMFH Architects, Inc.
John LaMarre, Todd McCabe, Consigli Construction

Call to order: 6:00 pm

Chair of the Committee, Jeff Thielman, opened the meeting conducted by remote participation as outlined in Governor Baker's order suspending certain provisions of the open meeting law on March 12, 2020, and explained the procedure on taking votes.

Chair, Jeff Thielman, congratulated Melissa Greene on her promotion to Senior Associate at HMFH Architects, Inc.

Town Manager Adam Chapdelaine introduced and welcomed Greg Walters to the committee as the new Facilities Director for the Town of Arlington and Arlington Public Schools.

Skanska

Jim Burrows reported that the committee will need to vote on the Moving Consultant, Add-on items and the Owner Approval Letters.

♦ Sy Nguyen reported that Skanska began the search process for a moving consultant in November, they received four bids that was narrowed down to two firms. After reference checking the Skanska project team recommends approval of STV/DPM. The Manager Award manages the entire moving process, the manager meets on a regular basis with the Superintendent, Principal and Asst. Principal. The process will begin with a planning meeting in February, it will take approximately up to a year for the entire process.

On a motion by Brian Rehrig seconded by Kathy Bodie it was

Voted to award the move manager to STV/DPM. Roll call Unanimous

- ◆ Add-on Items – Jim Burrows reported on the pricing and schedule of the priority list. Currently the terrazzo flooring is under review due to a potential 6 week schedule impact. Committee members discussed the priorities and timelines of the list. The potential impact of the terrazzo is while being installed other trades cannot access the areas, it does affect the central spine and cafeteria zones. Approval of items 2-5 would ensure that material on those items are procured.

The committee discussed the pros and cons of voting the entire package or only voting certain priority items.

- ◆ On a motion by Kathy Bodie seconded by Michael Mason:

Moved to approve all items 1-5 on the priority list.

Roll Call: Yes votes: Frank Callahan, Tobey Jackson, Ryan Katofsky, Brett Lambert, Kate Loosian, Brian Rehrig, Amy Speare, Jeff Thielman, Kathleen Bodie, Adam Chapdelaine, Kirsi Allison-Ampe, Matthew Janger, Michael Mason, Judson Pierce, and Sandy Pooler.

No votes: John Cole. Motion carries.

- ◆ Brian Rehrig moved to amend the motion to approve Phase 1 only of Priority Items #2 and 4 Priority 1, 3 and 5 with a second from Amy Speare. Roll Call: motion fails

Yes votes: Frank Callahan, John Cole, Tobey Jackson, Ryan Katofsky, Brett Lambert, Kate Loosian, Brian Rehrig, Amy Speare.

No votes: Jeff Thielman, Kathleen Bodie, Adam Chapdelaine, Kirsi Allison-Ampe, Matthew Janger, Michael Mason, Judson Pierce, Sandy Pooler.

- ◆ Owner Approval Letters (OALs):

John LaMarre reviewed the Owner's Award Letters #23-28.

On a Motion by Adam Chapdelaine seconded by Frank Callahan it was:

Voted to award the following subcontracts per OAL #23 thru #28:

Roll call: Unanimous

OAL #	Division	Subcontractor	OAL Amount
OAL #23	Auditorium & Dlab Seating	Robert H Lord Company	\$286,017
OAL #24	Folding doors (glass)	CRF Inc.	\$106,880
OAL #25	Operable Partitions	Corbin Hufcor, Inc.	\$66,000
OAL #26	Structural Steel (Phase 2 &3)	Trimax Steel Inc.	\$11,100,000
OAL #27	Manufactured Casework	Wood metal Industries	\$1,962,521
OAL #28	Engineer Barrier	Budget Maintenance Concrete Services	\$157,250

Consigli Update

John LaMarre reported that:

- The GMP amendment #2 has been executed.
- Structural Steel bldg. D completed & concrete slabs on deck commenced. Bldg. E structural steel fabrication is experiencing a delay due to design revisions. Current completion of steel is scheduled (weather permitting) for early March in lieu of mid-February. A schedule analysis is being performed for recovery in the overall Phase 1 duration or an extension for Phase 1 and subsequent phase completions
- Buyout continues. \$18M remains to be awarded. Structural Steel award value exceeded the budget. The material costs increased globally.
- MEP coordination continues, the underground (D&E) and bldg. upper floors of bldg. D were submitted as scheduled in January.
- "Add back" Price Requests (PR) #1-#5 for floor and wall finishes were priced and submitted for review and approval. Total \$1.4 M.
- COVID-19 protocols and procedures are and remain in place.

Subcommittee Reports

- ◆ Communications – Amy Speare reported that the subcommittee worked with Matt, Bill, and Skanska on creating an AHS student quick guide.
The subcommittee is also working with Consigli on the topping off ceremony – tentatively scheduled for 1st week of March. House Dean Paul McKnight is working on logistics with the senior class sign. Consigli will work on the photos and videos of the event.
- ◆ Correspondence received a letter from parent on AHS construction sign and noted the lack of diversity on the sign, the Diversity Task Group, Jillian Harvey the DIG coordinator worked with the project team and agreed that all images will be gray silhouettes with no racial features and will promote disability features. The construction sign will be changed and website images will also reflect that.
- ◆ Finance – nothing to report, continues to meet on their monthly schedule to approve invoices, change orders and vetting items to bring to the full committee.
- ◆ Interiors/Exteriors will meet before the holidays.
- ◆ Interiors – will meet on February 5, 2021.
- ◆ Landscape/Exteriors –met and worked on exterior brick color.
- ◆ Memorials has had two meetings to discuss the naming of buildings and exploring a memorial section in the building. There will be no naming of facilities until the building is complete in 2025. Town Counsel advised that the names in the current facility do not carry over to the new building, there are no ties nor obligations to do so, and Mr. Heim will consult with the school committee on how to move forward with the process. The committee also discussed setting up time capsules of current students for students of the future.
- ◆ SMEPFP no report. Energy model update predicated a lower EUI at 27.4 which is lower than anticipated. The report will be emailed to committee members.
- ◆ Security no report.
- ◆ Temp/Phasing – no report.

Approval of Minutes

On a motion by Adam Chapdelaine seconded by Tobey Jackson it was:

Voted to approve the meeting minutes of January 5, 2021.

Roll Call: Unanimous

Meeting Schedule

The next meeting is scheduled for Tuesday, March 2, 2021 at 6:00 p.m.

New Business

None

On a motion by Frank Callahan seconded by Brett Lambert it was:

Voted to adjourn at: 7:45 p.m.

Roll call: Unanimous vote.

Submitted by:

Karen Tassone

Recording Secretary

ktassone@arlington.k12.ma.us